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ABSTRACT

One of a series of eleven curriculum manuals which cover the four transportation topics of public transportation, transportation and the environment, transportation safety, and bicycles for elementary, secondary, and adult levels, this manual covers the public transportation topic for grades 6-9. It contains forty-two learning activities grouped into seven mini-units. Each mini-unit consists of a lesson plan component and an individual learning activities component. The first mini-unit provides a survey of issues related to public transportation; the rest are as follows: developing skills to identify and use public transportation, learning to make choices among different transportation modes, learning to respond to public transportation emergencies, learning how to promote use of public transportation, learning to seek redress of grievances over public transportation service, and researching public transportation issues. Supplementary activities are included which offer additional learning activities for independent use and/or a quiz for activity or mini-unit evaluation. Also included are references for further study resources, and masters for reproduction of role profiles, game boards, maps, and other distributable materials. (A curriculum guide, CE 014 028, is also available for use with the manuals.)

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RIDE ON!

MINI-UNITS AND LEARNING ACTIVITIES
on
PUBLIC TRANSPORTATION

for

grades 6 through 9

by

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Cambridge, Massachusetts 02138

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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FOREWORD

TEACHING TRANSPORTATION: AN OVERVIEW

> Nearly everything Americans do, from mailing a postcard to walking on the moon, depends on transportation. Transportation is essential for the supply of food, clothing and shelter, for national defense and employment, for education and recreation, for the international exchange of goods and services.*

Although every American is provided with the necessities and amenities of modern life through an intricate freight-carrying network, we think of transportation most readily in terms of moving people, not products, and for good reason. Millions of us commute to work every day by car, bus, train, or subway. Moreover, 21 million youngsters travel on school buses every day. Americans use a variety of transportation modes for other purposes, including shopping, recreation, tourism, and moving. The average family changes residence once every five years and makes use of one of the many thousands of for-hire companies that provide domestic surface transportation. In addition, Americans travel more than 1.7 trillion miles by passenger cars or trucks every year, while 250 trains cover 26,000 miles and service 484 communities with more than seven million people annually using the New York to Washington run alone. There are also 1000 intercity bus companies whose 23,000 vehicles travel 1.1 billion miles each year, while commercial aircraft transport over 200 million passengers annually.

Americans are also highly dependent on transportation services for recreation. Not only are vehicles used to get to places of entertainment, many vehicles are themselves forms of recreation. For example, there are approximately 7.3 million registered boats in the country, not counting rowboats and canoes. Seven and one-half million motor homes, truck campers, and travel and camping trailers are on the roads. Snowmobiles, dune buggies, and home-built vehicles have become widespread in the past few years.

Americans also relax on two-wheeled vehicles: there are 100 million bicycles and nearly five million motorcycles in the country, many of which are used for commuting as well as recreation.

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*John Burby, *The Great American Motion Sickness* (Little, Brown and Co.: Boston, 1971), page 3.

The most frequently used form of transportation in the nation, however, is walking. We sometimes forget that pedestrians use the single most common mode of travel.

Finally, the overwhelming importance of transportation in our lives must be assessed not only in terms of movement of goods and people, but also in relation to the millions of jobs transportation provides. Transportation facilities and vehicles require manufacturers, builders, operators, and mechanics, while also creating thousands of employment opportunities in related industries, from foundries that produce steel for vehicles to insurance companies that provide automobile insurance to health care systems that treat travel-related injuries.

For all these reasons it is important for students to become aware of transportation as it affects their lives, to learn to be wise purchasers and users of transportation goods and services, and to develop skills to promote constructive use and appropriate expansion of all forms of transportation in their communities and beyond.

In particular, consumers should become informed about (1) improving and using public transportation, (2) harmonizing transportation with the environment, (3) understanding transportation safety, and (4) appreciating the importance of bicycling. By examining these four major topics, students will learn, for example, to identify the best methods for commuting to school and work; to travel, when possible, in ways that minimize adverse transportation effects on the environment; and to purchase and use transportation vehicles and facilities in the safest possible manner.

CURRICULUM MATERIALS AVAILABLE

This Manual is one in a series of volumes that treat the four transportation topics of Public Transportation, Transportation and the Environment, Transportation Safety, and Bicycles at different grade levels. These volumes were developed by Abt Associates Inc. under contract to the U.S. Department of Transportation, Office of Consumer Affairs. The following eleven manuals and a curriculum guide on transportation consumer education are currently available:

- Travel On! Mini-units and Learning Activities on Transportation for Grades K-3
- Travel On! Mini-units and Learning Activities on Transportation for Grades 4-6
- Transportation Consumer Education for Adults: Mini-units and Learning Activities
- Pedal On! Mini-units and Learning Activities on Bicycling for Grades 6-9
- Pedal On! Mini-units and Learning Activities on Bicycling for Grades 9-12
- Ride On! Mini-units and Learning Activities on Public Transportation for Grades 6-9
- Ride On! Mini-units and Learning Activities on Public Transportation for Grades 9-12
- Getting There! Mini-units and Learning Activities on Transportation Safety for Grades 6-9
- Getting There! Mini-units and Learning Activities on Transportation Safety for Grades 9-12
- Transportation and the Environment in Harmony: Mini-units and Learning Activities for Grades 6-9
- Transportation and the Environment in Harmony: Mini-units and Learning Activities for Grades 9-12
- Transportation Consumer Education: A Curriculum Guide for K-12 and Adult

These volumes may be ordered from

Abt Publications
55 Wheeler Street
Cambridge, MA 02138

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The Federal Highway Administration (FHWA)

The National Highway Traffic Safety Administration (NHTSA)

The Office of Education, Bureau of Occupational Education (OE/BOE)

The Office of Environmental Affairs in the Department of Transportation

The Urban Mass Transportation Administration (UMTA) in the U.S. Department of Transportation

The Federal Aviation Administration (FAA)

The United States Coast Guard

Many individuals within these agencies were very helpful in pointing out biases in the materials, errors of fact, and pedagogical weaknesses.

We are also grateful to Donald Diffenbaugh and June Namias for field testing the manual in their classes in Arlington, Virginia and Newton, Massachusetts, respectively.

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Despite the considerable assistance from these sources, only the authors are in any way responsible for errors, approaches, and biases in the final product.

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INTRODUCTION

WHAT THE MANUAL CONTAINS

Teaching about Public Transportation, Grades 6-9, contains 42 learning activities grouped into seven mini-units. Each unit has two components:

1. *A lesson plan* provides a suggested day-by-day sequence of learning activities and goals.
2. *Individual learning activities* describe in detail how to implement the exercises suggested in the lesson plan.

Eleven spirit masters are also provided at the end of the Manual for use with 11 of the activities.

The first mini-unit provides a survey of issues related to public transportation, whereas the rest focus on a specific public transportation issue. The seven activities in the survey mini-unit all reappear in subsequent units. Brief descriptions of all the activities in the Manual are provided on pages 14 and 15.

The last section of activities consists of exercises that may be used independently. The final activity is a quiz that may be used to evaluate or supplement the evaluation of an activity or an entire mini-unit.

Also included at the end of the volume is a Bibliography of suggested teacher and student materials.

HOW TO USE THE MANUAL

This Manual is designed as a resource volume of activities and background materials to be used in ways compatible with your needs and those of your students.

The mini-units and individual learning activities may be integrated into your curriculum at many points and to meet many purposes.

- In *consumer education and home economics,* the activities find a natural home in view of their treatment of transportation issues from the perspective of the consumer.

- In *social studies,* the activities enhance learning about one's community. They aid in understanding the importance of citizen participation in government, and they broaden the study of transportation itself.

- In *science,* the activities have a place because of the impact that public transportation and carpooling have on the environment.

- *Health and safety units* are obvious points of entree because of the Manual's emphasis on pollution of the environment.

- *Language arts* skills are integral to all the mini-units, since the activities are designed to develop and reinforce students' capacities to listen, speak, write, observe, and analyze.

You will find that the introduction to each mini-unit sums up the rationale for teaching that topic in your classroom. After reading these mini-unit instructions, you will have the background for deciding which mini-unit or mini-units you will teach. In examining the mini-units, you should feel free to make substitutions or deletions in the mini-units and in the learning activities whenever this is necessary to meet your teaching objectives.*

Here are several methods for adapting the mini-units and learning activities to teach public transportation in your classroom.

You can read the lesson plans for all mini-units and *select one or more lesson plans* to integrate into your course. Having made your selection, read the detailed activity descriptions that follow the lesson plans for specific instructions on implementing the activities

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*Some activities involving comparisons between different modes of public transportation (for example, buses vs. subways) may appear usable only in communities in which there is more than one form of public transportation. However, students in such communities can still conduct most of these activities by *imagining* they live in a community (their own or some other town) in which there are at least two modes of public transportation. Students need to study different transportation modes even if their own communities have no transportation or provide only one or two modes because general knowledge of public transportation is important to all citizens in a highly technological and mobile country such as ours. On a more practical level, students may be able to benefit concretely from a study of public transportation if they some day move to communities where multiple modes are available, vote for state or national candidates who have taken a stand on public transportation issues, or vote on referenda which relate to public transportation financing.

in the mini-unit or units you have chosen. This method of using the Manual is most appropriate if you wish to concentrate in some depth on one or more specific aspects of public transportation.

If you prefer to provide your students with a survey of issues related to public transportation touching on several aspects of the field, you can *implement the first mini-unit* which provides just this type of overview. For your own information, you may wish to skim the lesson plans of the other mini-units for additional materials that will enrich your survey presentation.

You can *develop your own mini-unit* consisting of activities that you select from several mini-units in the Manual.* If you wish to do this, read the capsule descriptions of each activity provided on the chart on the following pages. This chart will show you, at a glance, the teaching method and content of each learning activity offered in the Manual.

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*You can also have your students leaf through the activities and select ones they would like to pursue individually or in small study groups.

MINI-UNITS AND ACTIVITIES

Activity #	Activity Description	Class Time (periods)
	Mini-unit 1 **Surveying the field of public transportation**	
1	Students discuss what the field of public transportation is composed of.	½-1
2	Students assess their travel needs and evaluate whether and when they should use public transportation.	½-1
3	Students play a game in which they arrange community trips using the most appropriate mode of public transportation.	1
4	Students discuss the advantages and disadvantages of using public transportation in general and in their community in particular.	1½-2
5	Students discuss America's alleged love affair with the automobile and how this may have affected patronage of public transportation.	½-1
6	Students practice writing letters of complaint about consumer grievances regarding unsatisfactory public transportation service.	1
7	Students role-play and discuss situation involving vandalism against public transportation vehicles.	½-1
	Mini-unit 2 **Developing skills to identify and use public transportation**	
8	Students discuss what the field of public transportation is composed of.	½-1
9	Students assess their travel needs and evaluate whether and when they should use public transportation.	½-1
10	Students role-play scenarios involving operators of public transportation vehicles.	½-1
11	Students compile a community "Places To Go-Things To Do" booklet of places in their communities accessible by public transportation.	1-2
	Mini-unit 3 **Learning to make choices among different transportation modes**	
12	Students play a game in which they arrange community trips using the most appropriate mode of public transportation.	1
13	Students discuss the advantages and disadvantages of using public transportation in general and in their community in particular.	1½-2
14	Students take a trip using both public and private transportation modes.	1
15	Students discuss America's alleged love affair with the automobile and how this may have affected patronage of public transportation.	½-1
16	Students discuss whether carpooling can be considered a form of public transportation and appraise its advantages and disadvantages.	½-1
	Mini-unit 4 **Learning to respond to public transportation emergencies**	
17	Students identify possible emergency situations on public transportation vehicles and anticipate what to do if they occur.	1-2
18	Students singly or in groups do research to learn what travelers should and should not do in order to enhance their safety on buses, subways, ferries, and light rail vehicles.	1-2
19	Students prepare written or oral descriptions of emergencies they have experienced involving personal safety and relate them to public transportation emergencies.	½-1
	Mini-unit 5 **Learning how to promote use of public transportation**	
20	Students discuss whether, when, and how to encourage other people to use public transportation and carpools.	½-2
21	Students role-play and then discuss methods by which to persuade other people to use or increase their use of public transportation.	1
22	The class discusses actions being taken by the Federal government to improve and promote public transportation in America.	½-1
23	Students discuss ways to encourage increased use of public transportation and carpools in their community.	1-2
24	Students plan advertising campaigns designed to promote public transportation and carpooling throughout the nation.	1-1½

MINI-UNITS AND ACTIVITIES (CONTD.)

Activity #	*Activity Description*	*Class Time (periods)*
	Mini-unit 6 Learning to seek redress of grievances over public transportation service	
25	Students discuss seeking redress of grievances against unsatisfactory public transportation service.	½-1
26	Students role-play scenarios involving operators and users of public transportation vehicles.	1
27	Students practice writing letters of complaint about consumer grievances regarding unsatisfactory public transportation service.	1
28	Students role-play and then discuss situation involing vandalism against public transportation vehicles.	½-1
	Mini-unit 7 Researching public transportation issues	
29	Students plan a public transportation system for their community.	3-5
30	Students plan the construction of a new or expanded public transportation system, weighing its environmental effects.	1-4
31	Students interview various groups who have difficulty using public transportation.	2-3
32	Students poll the public on its positive experiences with and complaints against public transportation.	1½-3
33	Students poll friends, neighbors, and strangers to learn what public transportation modes and improvements the community needs.	2-4
34	Students research methods for filing complaints with different public transportation authorities and how each agency handles consumer complaints.	½-1
35	Students research methods of citizen participation designed to promote public transportation.	1½-3
36	Students research the effects of automobiles on the environment and compare these effects in their own and other communities with the effects of public transportation vehicles.	1-3
	Supplementary activities	
37	Students give each other a starting point and a destination. Students then complete a story about a trip from the origin to the destination.	1
38	Students role-play scenarios in which a citizen complains to a provider of public transportation about the safety or convenience of the services provided.	1
39	Students complete a story in which they are forced to consider what public transportation services they would provide in their community to reduce use of cars.	1-2
40	Teacher and students evaluate class concerns about and attitudes toward public transportation.	½-1
41	Students evaluate the course.	½-1
42	Students answer oral or written questions on public transportation.	½-1

WHY TEACH ABOUT PUBLIC TRANSPORTATION

The Problems

American consumers are the purchasers and users of nearly $124 billion per year worth of personal transportation goods and services. However, the mobility and convenience of the automobile have created an enormous imbalance in our transportation modes and a neglect of public transportation. Patronage of public transportation services (buses, trolleys, subways, and trains) declined from 23 billion in 1946 to 6.95 billion in 1975--a decrease of 67 percent--while the number of motor vehicles increased from 31 million in 1945 to 133.7 million in 1975--an increase of over 300 percent. Of the 133.7 million vehicles in 1975, 107.3 million were passenger cars.

A shift in emphasis from automobiles to public transportation is essential to provide a means of transportation for the one in five families living in cities and one in four families living in small towns who do not own a car; for the people who do own cars but who are on countless occasions unable to use them due to personal incapacitation, loss of license, loan of the car, or car repairs; and the elderly and the permanently handicapped who cannot drive. Such a shift in emphasis would improve the quality of the environment by decreasing the level of air, noise, and visual pollution, since even with improvements in the control of auto emissions, the motor vehicle is still a major pollutant of our environment, particularly in congested cities. It would help eliminate massive traffic congestion: 77 percent of the nation's work force commutes to work every day by private automobile; 70 percent of these people drive alone; 32 urban areas account for 37 percent of all motor vehicles, contributing to heavy traffic congestion. Increased use of public transportation would reduce auto-related accident fatalities, which have killed more people on our nation's highways than the total number of Americans killed in wars fought by this country. It would also reduce the energy consumption of motor vehicles by 25 percent: 18 percent of the nation's energy is consumed by motor vehicle transportation, and nearly 80 percent of this is for personal travel by car, truck, or bus. While Americans reduced their vehicle fuel consumption in 1974 and 1975 as a result of the immediate fuel crisis, early 1976 patterns indicate an increase in vehicle fuel consumption.

The Solutions

The solutions depend on Federal and state governments, which must promote balanced transportation by providing assistance for planning, development, and financing of improved transportation systems and enact legislation of assistance to the public transportation area; on local transit authorities, who generate most of the use of their services by making public transportation more accessible and attractive to the daily traveler while finding solutions to their severe financial problems; and on citizens/consumers, who must become informed about local transportation problems and participate in their solution, take advantage of available public transportation services, form and participate in carpools, and make more efficient use of the automobile. Finally, solutions depend on teachers, who must guide students to a better understanding of the causes and effects of transportation problems and of possible solutions. Transportation consumer education can offer the student a unique opportunity to develop awareness and skills essential to acquire responsible transportation habits and to play a role in supporting and improving transportation in the community.

This Manual focuses on teaching public transportation by developing consumer skills that are particularly appropriate to grades 6-9. The learning activities are designed to

- Promote student awareness of the concept of public transportation
- Provide students with the knowledge and skills needed to use public transportation effectively
- Guide students toward the knowledge and skills needed to form and participate in carpools and make other efficient uses of the automobile

- Develop student appreciation for issues related to public transportation by studying transportation needs in the students' own community

- Guide students toward obtaining information about public transportation services in their own community

- Promote awareness of the excellent safety record of public transportation compared to other modes of travel and of the need for still further improvement in this regard

- Inform students about how to respond to a public transportation emergency

- Stimulate students to include considerations of energy conservation and pollution prevention--as well as the more familiar criteria of cost, comfort, safety, and speed--when deciding how to travel to a given destination

- Make students aware of the severe imbalance that currently exists between overuse of the automobile and underutilization of public transportation

- Make students aware of how this imbalance affects the environment and limits opportunities for efficient, inexpensive, and safe travel

- Motivate students to seek to attain a balance in all modes of transportation in their community and across the nation

- Stimulate students to consider promoting increased use of public transportation and carpools and to learn how to do so effectively

- Develop student awareness of who can effect improvement in public transportation service and how

- Provide students with the knowledge, skills, and motivation needed to effectively seek redress of grievances

MINI-UNITS
AND
LEARNING ACTIVITIES

MINI-UNIT 1

SURVEYING THE FIELD OF PUBLIC TRANSPORTATION

NOTE: The activities in this introductory mini-unit are all selected from the units that follow it.

This first mini-unit is designed for instructors who may not have the time to use all the in-depth units that follow and instead want to expose their students to several aspects of public transportation education. This unit can also be used in conjunction with or as an introduction to one or more of the following units.

The unit treats basic issues associated with the use of public transportation, including

- Definitions of public transportation
- The advantages and disadvantages of using public transportation and carpools
- Why Americans seem to use their automobiles so much and public transportation and carpools so little
- Consumer complaints against poor public transportation service
- Vandalism against public transportation vehicles and facilities

You can, of course, browse through the activities in the other mini-units and substitute one or more of them for those we have provided in this survey unit. You may find activities that are more appropriate to the needs of your particular students than the ones included in this survey.

MINI-UNIT 1 LESSON PLAN

Surveying the field of public transportation

Activity #	*Activities*	*Class Time*
1[a]	DESCRIPTION: Students discuss what the field of public transportation is composed of. GOAL: To understand the expression "public transportation" and what is involved in using public transportation.	½-1 period
2[a]	DESCRIPTION: Students assess their travel needs and evaluate whether and when they should use public transportation. GOAL: To be aware of how we normally travel and learn to identify times when it is appropriate to use public transportation.	½-1 period plus out-of-class time
3[b]	DESCRIPTION: Students play a game in which they arrange community trips using the most appropriate mode of public transportation. GOAL: To be able to select methods of travel in ways that include considerations of environmental impact, cost, convenience, safety, and speed.	1 period
4[b] Spirit Master #1	DESCRIPTION: Students discuss the advantages and disadvantages of using public transportation in general and in their community in particular. GOAL: To know the advantages and disadvantages of using different modes of transportation.	1½-2 periods

[a] This activity also appears in Mini-unit 2.

[b] This activity also appears in Mini-unit 3.

MINI-UNIT 1 LESSON PLAN (CONTD.)

Surveying the field of public transportation

Activity #	*Activities*	*Class Time*
5[c]	DESCRIPTION: Students discuss America's alleged love affair with the automobile and how this may have affected patronage of public transportation. GOAL: To be aware of the many reasons people drive cars and which reasons are appropriate.	½-1 period
6[d] Spirit Master #6	DESCRIPTION: Students practice writing letters of complaint about consumer grievances regarding unsatisfactory public transportation service. GOAL: To be able to register complaints for unsatisfactory public transportation service.	1 period
7[d]	DESCRIPTION: Students role-play and then discuss situation involving vandalism against public transportation vehicles. GOAL: To understand the problems caused by vandalism against public transportation vehicles.	½-1 period

Total Class Time: 5½-8 periods.

[c] This activity also appears in Mini-unit 3.

[d] This activity also appears in Mini-unit 6.

ACTIVITY #1*

Mini-unit Topic: Surveying Public Transportation **Approximate Class Time:** ½-1 period

Capsule Activity Description: Students discuss what the field of public transportation is composed of.*

Goal:

To understand the expression "public transportation" and what is involved in using public transportation.

Concepts Treated:

- Public transportation refers to particular types of travel whose nature can be specifically described.
- Citizens need to learn about many different aspects of public transportation if they are to use it effectively.

ACTIVITY

Begin the activity by asking students for *their* definition of public transportation and then revising it for the purposes of the particular mini-units that will be studied. The broadest definition consistent with all the activities in the Manual is

> Public transportation refers to all modes of travel operating within a community (as opposed to between states, etc.) involving vehicles that are publicly owned (for example, by the government) or are owned by private businesses (for example, a taxi company), as opposed to vehicles owned by private citizens, including automobiles, bicycles, and recreational vehicles. Public transportation also includes the facilities (for example, bus stop shelters and ferry docks) serving public transportation vehicles and their passengers.

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*This activity also appears in Mini-unit 2.

Having defined the field of study, the class then identifies the major aspects of public transportation that can usefully be studied *from the perspective of the transportation user (consumer).* Supplement the students' catalog of topics worth studying with the items in the following list, all of which are treated in one or more of the following mini-units.

What are the public transportation modes and facilities available in America and in our community?

1. What are the modes? Bus? Train? Subway? Taxi? Ferry? Carpooling? Light rail (trolleys)? Other (such as demand-responsive, cable cars, aerial tramways)?
2. How can we learn what services are available?
3. Why doesn't our community have some of these modes?
4. Has ridership increased, declined, or remained constant over the past decades? Have there been corresponding changes in the availability of public transportation services? (The use of public transportation decreased from a high of 23.2 billion passengers in 1945 to 6.56 billion in 1972. During this time, the number of passenger vehicle miles declined from 3.2 billion to 1.7 billion miles. Since 1972, the use of public transportation and the number of passenger vehicle miles have increased gradually. In 1975, it is estimated that there were 6.95 billion passengers on public transportation and the number of passenger vehicle miles reached nearly 2 billion. You might ask students to research whether these trends are consistent with public transportation in your area. (See also the chart at the end of this activity.)
5. If your community has only one mode of public transportation, is it sufficient? If not, how should it be expanded? Or should another mode be installed, rather than expanding the present mode? If your community has no public transportation, does it need some?
6. What plans are underway for the provision of public transportation in the future? If no plans exist, what modes does the class think are needed? Why? (See Activity 22 for examples of government plans in the field of public transportation.)

How can and should people decide when to use public transportation and which modes of public transportation to use? To what extent does the decision depend on

1. Knowledge of public transportation
2. Availability of public transportation
3. Convenience, speed, cost, safety, and comfort
4. Familiarity with the operations of public transportation
5. Feelings about public transportation and automobiles, such as inappropriate fears of getting lost and strong desires to use a fast or glamorous automobile

6. Concerns about the social, environmental, and energy-depleting effects of excessive reliance on automobiles and concerns about attaining a balance in the use of transportation modes

How does one go about using public transportation?

What actions can citizens take to improve public transportation or have it installed if it does not exist?

1. Is it important for citizens to become involved in decisions involving public transportation? Why or why not?

2. What types of actions can citizens take to improve public transportation services--for example, persuading friends and family to use them more often or more appropriately? participating in transportation planning? engaging in political action such as voting and petitioning public officials? seeking redress of grievances? initiating carpools?

3. How can citizens also promote more efficient use of the automobile?

4. About what public transportation issues can and should citizens become involved--for example, safety? availability of services? discriminatory services? funding problems? fares? environmental considerations?

5. What actions can citizens take to meet the grievances that operators of public transportation have against citizens, such as vandalism and discourtesy?

Evaluation Method:

Students describe the components of the field of study, "public transportation education," and indicate why each component is important.

Variations and Supplementary Activities:

The class can break into small groups, with each group responsible for developing its own definition of public transportation and identifying its own list of topics that can be considered to fall within the field of public transportation education.

Students can interview public transportation officials in their community about what they think the components of the field are and how they define public transportation. Students compare the officials' definitions with their own and resolve any discrepancies. A public transportation official can also be invited to class to discuss these issues.

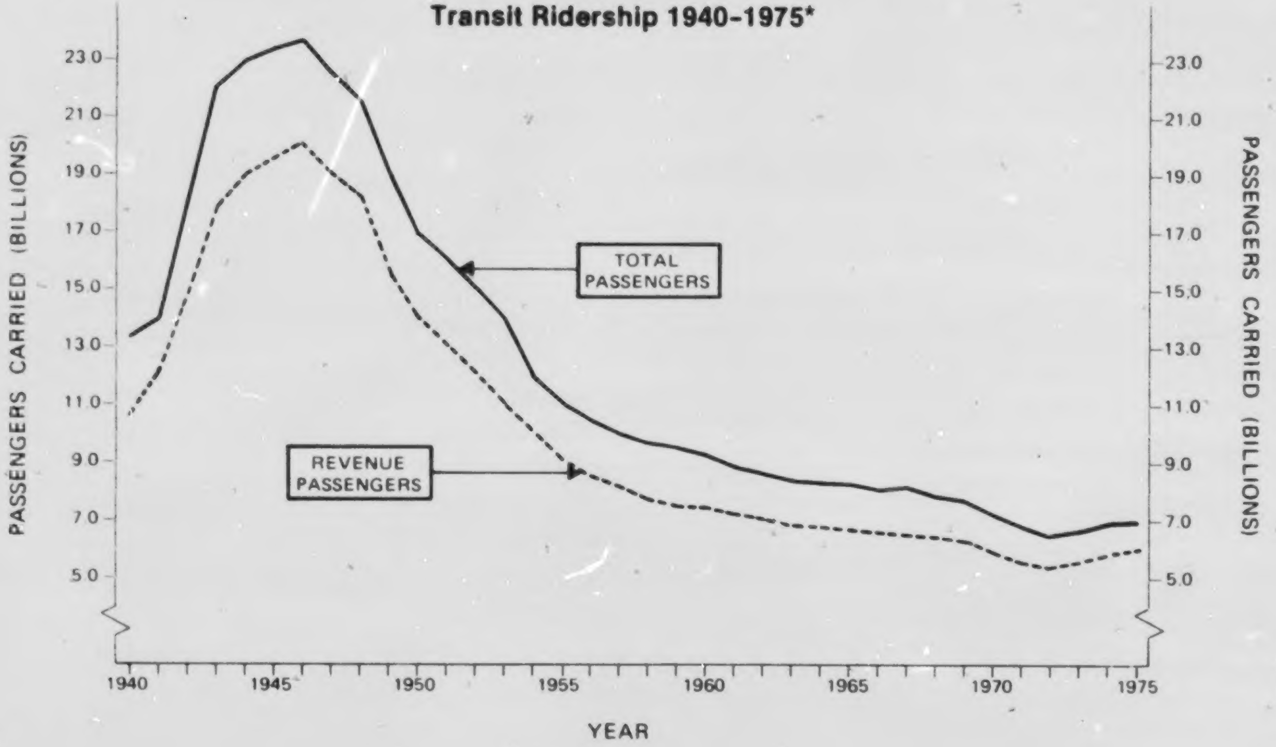

*Chart taken from *Transit Fact Book*, Courtesy of the American Public Transit Association, Washington, D.C.

ACTIVITY #2*

Mini-unit Topic: Surveying Public Transportation

Approximate Class Time: ½-1 period, plus out-of-class time

Capsule Activity Description: Students assess their travel needs and evaluate whether and when they should use public transportation.*

Goal:

To be aware of how we normally travel and learn to identify times when it is appropriate to use public transportation.

Concepts Treated:

- Many people are unaware of which transportation modes they regularly use and how often they use them.
- People tend to lack awareness of the full extent to which they depend on automobiles for their travel needs.
- People tend to ignore the possibilities for using public transportation and carpools for some of their travel needs.

ACTIVITY

For a period of several days, students keep a log of all the traveling they do by motorized and nonmotorized (e.g., bicycling, walking) modes of transportation, including carpooling. For example,

Tuesday

Rode bus to school

Took bus home

Rode bike to Billy's house

Billy's mother drove us to the pool and home again

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*This activity also appears in Mini-unit 2.

Rode bike to my house

Took bus to library

Walked home

Wednesday

Took bus to school

Went on field trip to local dairy by bus

Took bus home from school

Mother drove me and neighbor to trumpet lessons

Walked home

Walked to the drug store and home again

Thursday

Mother drove me to school this morning (missed bus)

Mother picked me up at school--had to go to the dentist

Picked Davy up at the train station and went home

At the end of the week, students tabulate their total number of trips and the number of trips by each transportation mode. Keep a running tally on the blackboard. Then discuss the following issues with the class in light of these results:

- How would your life be different if there were no way to travel--even short distances?
- If all automobiles suddenly disappeared, how would people get around?
- If your parents' car were stolen or in the repair shop for a long time, how would that affect your ability to get around?
- If you aren't using public transportation or carpools now, for which of your travel needs could you use them?

Evaluation Method:

Students cite instances in their personal lives where travel by public transportation would be fitting and explain why.

Variations and Supplementary Activities:

Students can perform the same activity in terms of ways in which they could make more efficient use of the automobile for the trips recorded in their logs--for example, by carpooling and consolidating trips.

If there is no public transportation in the local community, students can conduct the activity by discussing whether any of the trips they recorded in their logs *could* have been taken by public transportation if there *were* buses, trains, etc. in their community and whether they would have actually used these public transportation modes instead of driving or walking.

ACTIVITY #3*

Mini-unit Topic: Surveying Public Transportation

Approximate Class Time: 1 period

Capsule Activity Description: Students play a game** in which they arrange community trips using the most appropriate mode of public transportation.*

Goal:

To be able to select methods of travel in ways that include considerations of environmental impact, cost, convenience, safety, and speed.

Concepts Treated:

- Selecting the best method of travel requires identifying and weighing the advantages and disadvantages of different transportation modes.
- Considerations of time and money are two major factors influencing how people do and should travel.
- There are emotional as well as practical reasons for deciding how to travel.
- The decision of which mode of transportation to use is one that must be made over and over in the light of varying travel needs and destinations.

ACTIVITY

The decision whether or not to use public transportation is one that many citizens must make every day. It is never possible to decide once and for all to use only public transportation or to use only the automobile. That decision will always depend on various considerations and must often be made daily in light of those factors. The following activity illustrates this decision-making process.

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*This activity also appears in Mini-unit 3.

**Transportation Game. © Abt Associates Inc., 1972 (excerpted here by permission). Complete classroom kit available at $24.00 plus $1.50 shipping and handling from: Games Central, 55 Wheeler Street, Cambridge, Massachusetts 02138.

Overview

Students, acting as travelers, are given "Place Cards" which give information about a "trip," the points of departure and destination, purpose of the trip, time constraints, and the funds available for the journey. Travelers* plan the trips by consulting with "representatives" of various transportation industries--bus line, light rail (trolley), taxi company, and automobile drivers' club. From these representatives, the travelers get information concerning fare and time schedules with which they make their choices and determine the most appropriate way for them to travel. Included in a game is a set of transportation schedules. These have the individual costs already calculated and need only be coordinated with the time constraints as outlined on the Place Cards. (Sample "Place Cards" and "Transportation Schedules" are provided at the end of the activity.)

How to Play

Prior to play, select four students or ask for volunteers to be "transportation representatives" for the first game (students switch off for the second game). If 20 or more students are playing, it might be wise to have eight transportation representatives at one time--two for each transportation mode.

Arrange the representatives in distinct sections of the room. Representatives make signs for their company (for example, Drab Cab Company, What-A-Bus Company, Hitch-A-Ride Drivers' Club) and are given their respective schedules. If two students are acting as transportation representatives, each takes half the schedules.

The rest of the class acts as "travelers." Each traveler receives a Place Card.

Tell the travelers that the object of the game is to determine the *mode of transportation, fare, and length of trip that best fit the conditions indicated on their Place Cards*. In order to do this, the travelers must consult with the various transportation representatives to obtain information on cost and total trip time. (Paper and pencils will be needed.) When a student arrives at an appropriate answer (mode of transportation and departure time), it is checked with you. Allow enough time for all students to complete their problems.

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*Students can work in pairs on each Place Card, making the task less demanding on individual students and providing an opportunity for students to assist each other.

Special Rules

The following rules are explained to the students:

- Students' answers include mode of transportation, fare, and total trip time.
- Students figure out the costs only for one-way trips.
- All fares are given for one person.

At the conclusion of the game the class discusses the following issues:

- What are some of the advantages and disadvantages of each mode of transportation?
- What are some of the emotional reasons why people might select a type of transportation that might not necessarily be the most economical or quickest method to get somewhere?
- Should people be influenced in their choice of travel mode by such considerations as desires for privacy, excitement, or power? Which considerations? Why?
- Should communities provide more than one type of public transportation for their residents? Why?

Evaluation Method:

Game is self-evaluating.

Daily Light Rail (Trolley) Schedule

1. Edgewater Street to *Royal Avenue*

Take Black Line to
Kings Road - Change
Take Red Line to
Royal Avenue

Fare: 25¢
Trip time: 15 minutes

2. Winter Street to *Essex Street*

Take Green Line to
North Hill Station - Change
Orange Line to Weston Garden
Walk three blocks to Essex Street

Fare: 25¢
Trip time: 25 minutes
(including walking time)

3. Richmond Street to *Bridge Street*

Take Green Line to
Bridge Street Station

Fare: 25¢
Trip time: 15 minutes

4. Gloucester Road to *Totten Road*

Take Blue Line to High Street
Station - Change
Aqua Line to Circus Road
Station - Change
Take Red Line to Totten Road

Fare: 25¢
Trip time: 20 minutes

5. Victory Street to *Airport*

Subway does not go to airport

Daily Bus Schedule

1. Edgewater Street to *Royal Avenue*

Take Bus #33

Fare: 20¢
Trip time: 20 minutes

2. Winter Street to *Essex Street*

Take Bus #21 to
Cary Road Stop - Change
Bus #4 to Essex Street

Fare: 40¢
Trip time: 30 minutes

3. Richmond Street to *Bridge Street*

Take Bus #12 to Sloane Square
Bus #9 to Oxford Street
Station - Change
Bus #11 to Bridge Street

Fare: 60¢
Trip time: 40 minutes

4. Gloucester Road to *Totten Road*

Take Bus #20

Fare: 20¢
Trip time: 10 minutes

5. Victory Street to *Airport*

Express Bus #2

Fare: $1.00
Trip time: 30 minutes

Automobile Schedule

1. Edgewater Street to *Royal Avenue*

Cost: 60¢
Parking fee: $2.50
Trip time: 25 minutes
(includes time to park car)

2. Winter Street to *Essex Street*

Cost: 90¢
Parking fee: $2.50
Trip time: 25 minutes
(includes time to park car)

3. Richmond Street to *Bridge Street*

Cost: $1.20
Parking fee: 50¢
Bridge toll: 30¢
Trip time: 35 minutes
(includes time to park car)

4. Gloucester Road to *Totten Road*

Cost: 60¢
Parking fee: $2.50
Trip time: 25 minutes
(walk 5 blocks from where
car parked)

5. Victory Street to *Airport*

Cost: $1.50
Tunnel toll: 25¢
Parking fee: $6.00
Trip time: 40 minutes
(includes time to park car)

Daily Taxi Schedule

1. Edgewater Street to *Royal Avenue*

   Fare: $3.20
   Trip time: 15 minutes

2. Winter Street to *Essex Street*

   Fare: $5.30
   Trip time: 15 minutes

3. Richmond Street to *Bridge Street*

   Fare: $6.70
   Trip time: 25 minutes

4. Gloucester Road to *Totten Road*

   Fare: $3.20
   Trip time: 5 minutes

5. Victory Street to *Airport*

   Fare: $8.10
   Trip time: 20 minutes

Place Cards

1. $10.00

You are late. Your plane takes off at 10:30; it is now almost 10:00. You have to get to the airport in a hurry. You are standing on the corner of Victory Street staring at your watch. How do you get to the airport from here?

Answer: Taxi - $8.10; 20 minutes.

2. $1.00

You live on Gloucester Road. You mother has asked you to stop off at the cleaners for her on your way to the movies. You said, "Sure." As you were leaving, she gave you the cleaning: four suits, five dresses, four sweaters. You couldn't believe it. You could hardly carry it all. You were going to walk to the movies but now you must find an easier way to get from Gloucester Road to Totten Road than on foot.

Answer: Bus - 20¢; 10 minutes.

3. $2.00

The play starts in exactly 30 minutes. You are supposed to meet a friend at the theatre, but knowing that there will probably be a huge crowd you are afraid that you may never find each other. Unfortunately you have both tickets so you can't meet each other in your seats. There must be a better place to meet. You are traveling from Edgewater Street to the theatre on Royal Avenue. Your friend lives on King's Road.

Answer: Trolley - 25¢; 15 minutes.

4. $4.00

You told your aunt you would take her and her three poodles to the pet store so the dogs can get clipped. It is always a problem taking those dogs anyplace. They bark and jump around and are generally disorderly. It makes your poor aunt very nervous to take them anywhere. You told her you would help her out and find the easiest and least disruptive way to get the dogs to the pet store. You and your aunt live on Winter Street; the pet store is on Essex Street.

Answer: Automobile - $3.40; 25 minutes.

5. $4.00

You have to pick up a birthday cake for your sister's party. You have a lot of things to do today to prepare for the party so you don't want to waste time running errands. You live on Richmond Street and the bake shop is on Bridge Street.

Answer: Trolley - 25¢; 15 minutes.

ACTIVITY #4*

Mini-unit Topic: Surveying Public Transportation **Approximate Class Time:** 1½-2 periods

Capsule Activity Description: Students discuss the advantages and disadvantages of using public transportation in general and in their community in particular.*

Goal:

To know the advantages and disadvantages of using different modes of transportation.

Concepts Treated:

- Selecting the best method of travel requires identifying and weighing the advantages and disadvantages of different transportation modes.
- Most modes of transportation have both several advantages and several disadvantages to using them.
- A major advantage in using public transportation is that such patronage helps attain a balance in the use of all transportation modes.
- The harmful and beneficial effects of different transportation modes on the environment should be identified and weighed in deciding how to travel.

ACTIVITY

Duplicate copies of the check sheet provided on Spirit Master #1 and distribute two copies to each student. Each student fills in one, placing check marks in the boxes to indicate good features they feel different modes of public transportation offer *in general,* without special reference to their community. For example, taxis in general offer a fair amount of privacy; subways use energy relatively efficiently. Students then think of *their own community* and then place check marks in the boxes of the second copy of the chart to indicate good and bad features they feel different modes of public transportation offer in their community.

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*This activity also appears in Mini-unit 3.

In communities with only one mode of (or without) public transportation, students should consider (1) what *would* be the pros and cons of various modes that might be installed in their community and (2) why there is only one mode of (or no) public transportation.

The class then breaks into small groups. Each group compares its members' sheets and discusses discrepancies among them until it is able to develop (using two more blank sheets) a consensus on the positive and negative features of public transportation (1) in general and (2) in their community.

Each group presents its results to the class and the opinions of all the groups are compared. Disagreements among groups are discussed and explained. Follow-up discussion is held to consider which of the seven (or more, if students added to the list) general features of public transportation are most important and why--that is, which of these features would be most likely to motivate a citizen to use public transportation instead of another. The features can be rank ordered from most influential to least important.

Be sure to point out that one of the major needs in most American communities today is to achieve a balance in the use of all transportation modes. To the extent that people increase their use of public transportation and rely less on the use of automobiles, they will be contributing to the attainment of a balanced transportation system in their community.

You should also point out that, as a supplement to this approach to creating a balanced transportation system, the public can also make more efficient use of the automobile by using carpools, engaging in trip consolidation, and practicing energy-conserving driving techniques.

Conclude the activity by inviting an official of a local public transportation system to come to class (preferably with a bus) to react to and expand on the students' conclusions regarding the good and bad features of using public transportation.

Evaluation Method:

Students describe the advantages and disadvantages of traveling to a particular destination in their community by bus, subway, trolley, taxi, ferry, or carpool, depending on the availability of these modes of transportation where they live.

Variations and Supplementary Activities:

For some classes, it may be best to use this activity *after* students have researched some of the advantages and disadvantages of public transportation so that they have a fund of information to rely on in filling out and discussing the check sheets.

This activity can be simplified or made more complex in a number of ways. For example, students can fill in one chart as a class, considering only their own community's public transportation facilities. Students can also refine the sublistings under each of the seven features to include time of day travel occurs, type of person doing the traveling (e.g., handicapped? child?), weather condition, or comparisons with walking or bicycling as alternative modes of travel. For example, taking a ferry may be relatively more expensive for the poor than for the middle class. Using a taxi may be less convenient for minority persons who are sometimes refused rides than for whites who are routinely picked up. Taxis may be more comfortable to use in cold, heat, rain, or snow than buses for which one may have to stand outdoors awaiting their arrival. On the other hand, taxis are expensive. Buses may not run frequently after 8 P.M.

Students can adapt the chart into a questionnaire and poll the community to learn its attitudes toward the advantages and disadvantages of using public transportation.

Students can insert private modes of transportation at the top of the chart and draw comparisons between them and different forms of public transportation. See the example below:

	Bus	Train	Subway	Taxi	Light Rail (Trolleys)	Ferry	Automobile	Walking	Bicycle	Motorcycle	Carpool

Students in a community with no public transportation or with only one mode can pick a community about which they have some information (e.g., nearest big city) that is different from their own community in terms of size and types of public transportation available and complete the chart for that community. Students compare and discuss results.

Students can discuss how carpooling and more efficient use of automobiles help the environment but may involve inconvenience.

ACTIVITY #5*

Mini-unit Topic: Surveying Public Transportation

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss America's alleged love affair with the automobile and how this may have affected patronage of public transportation.*

Goal:

To be aware of the many reasons people drive cars and which reasons are appropriate.

Concepts Treated:

- Many people have emotional as well as practical reasons for driving cars.
- The harmful and beneficial effects of different transportation modes on the environment should be identified and considered in deciding how to travel.
- Consumers need to evaluate the appropriateness of using automobiles to satisfy emotional needs in light of the harmful effects on the environment that excessive automobile use causes and the imbalance in the use of transportation modes that it creates.
- Adolescents should think about their attitudes toward automobiles at an early age so that when they get their drivers' licenses they will consider using public transportation as an alternative to the automobile.

ACTIVITY

Students write their response to the following instructions and scenario:

> It was the biggest event in my life. I had been looking forward to it for at least four years, and the last year

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*This activity also appears in Mini-unit 3.

> was an agony of waiting for my dream to come true: a car! At last I'd be able to do all the things I'd been waiting for..

1. Do this teenager's feelings reflect the way *you* now feel about the time when you will be able to drive? If *not*, write a few sentences summing up your own feelings on this score.

2. Write down all the reasons you think this teenager was eager to drive.

During the following class session, students break into small groups and are given written instructions to read each other's papers and discuss one or more of the following issues:

1. What feelings did you describe in your statements about looking forward to driving?

2. What responses did you give for why the teenager was so happy to be able to drive?

3. What other reasons do people have for driving cars?

4. Which of these reasons involve the use of cars as a necessity, a luxury, or an important means of transportation that *public transportation or carpooling could not provide nearly as well?*

5. Explain why people prefer cars to public transportation.

6. Is it desirable and possible to change Americans' attitudes about cars? If so, how?

7. What arguments are there for using public transportation and carpools under certain circumstances rather than automobiles?

8. How could these arguments be presented to the motoring public effectively and who should be responsible for educating the public to the importance of reducing its reliance on automobiles (or making more efficient use of the automobile) and increasing its use of public transportation?

9. How could these arguments be presented to students between the ages of 11 and 14, in an effort to develop different attitudes toward their use of automobiles?

The groups report their conclusions to the class and respond to comments and questions from the class and you. Raise for discussion additional reasons some people have for preferring to travel by car rather than by public transportation or carpool, such as privacy; convenience: door-to-door service; comfort (regulated heating, uncrowded, seats available); mobility and independence; power symbol; apparent cost effectiveness (no money is paid during most trips); speed (often less time consuming than other travel modes); appearance (driver can show off a big, expensive, sporty or otherwise ego-building car); flexibility (can stop and get out or take side trips at will); and lack of public transportation.

Evaluation Method:

Students debate whether the activity has modified their own feelings of anticipation of the day when they will receive licenses to drive.

Variations and Supplementary Activities:

Students can poll friends and neighbors on reasons they wanted a driver's license when they became of age.

Students can discuss whether a reduction in the use of automobiles (or more efficient use of the automobile) would have adverse effects on the economy and on employment.

ACTIVITY #6*

Mini-unit Topic: Surveying Public Transportation

Approximate Class Time: 1 period

Capsule Activity Description: Students practice writing letters of complaint about consumer grievances regarding unsatisfactory public transportation service.*

Goal:

To be able to register complaints for unsatisfactory public transportation service.

Concepts Treated:

- Unsafe, inefficient, or unclean public transportation service may warrant complaints by the public.
- Citizens are more likely to secure redress of grievances if they identify methods for doing so which are likely to be effective.

ACTIVITY

Students read the passenger role profile in Activity 26 and write letters seeking redress of grievances. Each student (or small group of students) decides whom he should write to and what should be included in the letter. A list of potential recipients is provided later in the activity. A sample letter is provided on the top half of Spirit Master #2. Follow-up discussion can focus on

- How useful letter writing is
- Whom the letters should be addressed to
- Whether letters are most effective if they are angry, factual, threatening, apologetic, etc.

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*This activity also appears in Mini-unit 6.

- What information should be included, such as writer's name and address; name and license number of driver and vehicle; description of complaint; time and location of offensive or dangerous behavior; indication that copies of the letter are being sent to other people or agencies

After this discussion, students write letters of *response* to the consumer complaint letters and discuss the legitimacy of the passenger's complaint, identify any constraints which may make it difficult for the transportation authority to comply with the consumer's demand for redress, and indicate what action, if any, the authority will take or has taken to meet the consumer's concerns. A sample letter from an agency responding to a consumer complaint is provided on the bottom half of Spirit Master #2.

The following are sample agencies, individuals, and groups students can write to seeking redress of certain kinds of grievances.

- Local transit authority for fares, schedules, routing, condition of buses, unsafe driver behavior, and lost items

- Local officials for scheduling, routing, fares, condition of buses, and funding

- Consumer groups and Better Business Bureaus for scheduling, routing, fares, and condition of buses

- Newspaper action lines to give wider circulation regarding public transportation problems

- U.S. Congress for funding and lack of adequate public transportation service

- Urban Mass Transportation Administration (UMTA), U.S. Department of Transportation, for funding information and safety defects in public transportation equipment

- National Highway Traffic Safety Administration (NHTSA), U.S. Department of Transportation, for reporting safety defects on automobiles and buses

Evaluation Method:

Students register complaints for unsatisfactory public transportation service (described by other members of the class) in role-played telephone calls to "public transportation officials."

Variations and Supplementary Activities:

Students can role-play telephoning their complaints to one or more sources of redress, while other students role-play the party receiving the call.

Students can write letters complaining about inadequate service and other conditions that can be corrected only with additional funding and by overcoming political constraints. Other students can respond to these letters explaining how economic or political constraints make it difficult to provide the service the letter writer requests.

Students can write letters to bus companies *complimenting* them for particularly good service or especially considerate bus drivers.

Students can visit the maintenance shop of a local public transportation agency for a tour including a discussion of how maintenance problems can affect the quality of public transportation service. (Many local bus companies regularly provide such tours.)

ACTIVITY #7*

Mini-unit Topic: Surveying Public Transportation **Approximate Class Time:** ½-1 period

Capsule Activity Description: Students role-play and then discuss situation involving vandalism against public transportation vehicles.*

Goal:
To understand the problems caused by vandalism against public transportation vehicles.

Concepts Treated:

- Complaints against public transportation service must be seen in the context of abuse against transit vehicles by some citizens.
- Vandalism against public transportation vehicles reduces the level of public transportation service for all citizens who use the system.
- Vandalism increases the operating costs of public transportation systems.

ACTIVITY

Two or more students role-play the scenario described in the role profiles at the end of the activity. (You may want to revise them first to reflect more closely actual conditions in the community.) Following the role-play, break the class into small groups to discuss one or more of the following issues:

1. What kinds of vandalism take place against public transportation vehicles (e.g., breaking windows, slashing seats, writing graffiti, stealing bus signs)?
2. What other kinds of activities do some people engage in that are destructive of the public transportation system (e.g., harassing passengers, harassing operators, yelling, swearing, fooling around, littering, fighting)?

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*This activity also appears in Mini-unit 6.

3. Who tends to engage in these activities (e.g., boys or girls, teenagers, adults)?

4. On what occasions and why do these people do this (e.g., after sports events, when kids are in a group, after drinking too much alcohol; to let off steam, to gain approval from friends, peer pressure, to satisfy sadistic urges, to rebel against authority, to express frustration at economic or social conditions)?

5. What effects do vandalism and other inappropriate public transportation behaviors have on safety (distracting the driver, making a vehicle unsafe to use or drive, removing or defacing traffic signs), comfort, accessibility, and the costs of public transportation?

6. How can vandalism be prevented or reduced?

Small groups report their conclusions to the class, and general discussion focuses on methods by which people can be encouraged to use public transportation appropriately and deterred from using it inappropriately. Example methods might be

- Provision of additional security measures, such as guards
- Discontinuation of service in areas where vandalism is uncontrollable
- Refusal to allow persons found guilty in court of having abused the system from using it in the future for a specified period of time
- Cancellation of events that seem to preceed instances of vandalism (e.g., athletic events, rock music performances)
- Stringent control over access to alcohol at such events
- Educational campaigns in schools and the media describing the self-destructiveness of vandalism

These methods must be considered in terms of how effectively they could be enforced and whether they would lead to the abuse of civil liberties.

Evaluation Method:

Students write a flyer or poster, to be placed in the school library or office, explaining why vandalism of public transportation vehicles should not be committed.

Variations and Supplementary Activities:

Students can interview, or invite to class, officials and operators of the public transportation system.

Students can interview public transportation authorities on the expenses necessitated as a result of vandalism and report what they learn to the class.

Students in small groups can develop another set of role profiles around another vandalism issue and each group can then role-play one other group's exercise.

Sample Role Profiles

School principal

Last night your school lost its semifinal game in the state school basketball tournament. A lot of the kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you cannot afford to let it happen again. However, athletics are a big thing in your community, so you have to be careful that what you do doesn't damage the athletic program too much. And if you expel the students who were arrested, you'll have to deal with all their parents --and possibly some angry people on the School Committee.

The meeting with the police chief, gym director, student council president, a basketball player on the team, and the transit authority administrator has just begun. What do you say should be done?

Transit authority official

Last night the school basketball team lost its semifinal game in the state school basketball tournament. A lot of kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, you and the police chief have called a meeting this morning with the school principal, student council president, one of the basketball players, and gym director to discuss what should be done with five students who were arrested and to prevent a similar occurrence from happening again. In fact, this is the second year in a row this has happened, and you're determined it will not happen again. The town budget manager has threatened to reduce the amount of funding available for the bus system if it happens again. He argues, "Why should the citizens have to pay for repairing the buses and for providing bus service when these kids make it impossible for us to use buses safely and comfortably?" However, the bus system makes a lot of money from students who are passengers, so you don't want to lose their patronage, either. You feel if the police assign an officer to every bus during events like this, the problem might be solved.

The meeting with the police chief, the gym director, the student council president, a basketball player on the team, and the school principal has just begun. What do you say should be done?

Student council president

Last night your school lost its semifinal game in the state school basketball tournament. A lot of kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded the buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you cannot afford to let it happen again. If it does, you are afraid the school will cancel tournament participation by your school entirely or else not let any students attend the play-offs. If this happened, you probably wouldn't be reelected student council president, since your opponents would claim it was your fault these things happened. Besides, you don't think it's fair to punish the vast majority of students for the behavior of a few.

The meeting with the police chief, the school principal, the gym director, one of the basketball players, and the transit authority official has just begun. What do you say should be done?

Basketball player

You are a sophomore guard on the school basketball team. Last night your school team lost its semifinal game in the state tournament. A lot of the kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this happened, and you cannot afford to let it happen again. You desperately need a scholarship to go to college, and if you cannot play basketball--especially on a championship team--you may not be able to get one. Therefore, you think the students who were caught should be severely punished to set an example, and the gym director should make sure that kids don't bring beer into the gym. However, you feel you can't say these things too forcefully in front of the student council president, because he'll go around telling the other students that you wouldn't stand up for the kids and are thinking only of your scholarship.

The meeting with the police chief, gym director, student council president, transit authority official, and school principal has just begun. What do you say should be done?

Gym director

Last night, two state school basketball teams played their semifinal game in your gymnasium. Some of the kids from the team that lost had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you cannot let it happen again. If it does, you are afraid you may lose your job, since it might be seen as your fault that the kids were able to bring beer into the gym. However, it's just about impossible for you to prevent this, since you can't frisk every student that comes into the gym nor can you keep an eye on them all during the games. Some of the kids even manage to hide their alcohol in the locker rooms and drink it there during half-time, when there are so many people milling around nobody can see what's going on. Therefore, you feel the solution is to have the school principal expel these students from the school as a lesson to other students.

The meeting with the police chief, student council president, basketball player, transit authority official, and school principal has just begun. What do you say should be done?

Police chief

Last night the home town school lost its semifinal game in the state school basketball tournament. A lot of kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you want to prevent it from happening again. The town council has been accusing you and your staff of not doing their job to protect the community from kids making trouble for its citizens. The transit authority says you don't provide them with enough protection. The problem is, you feel it's the parents' responsibility to take care of these kids, not yours. Sure, you can throw the book at them and recommend they be sent to reform school or to jail, but there will be other kids next year who'll do the same thing all over again. Besides, once kids get drunk, there's nothing you can do to stop them from doing damage. Either the games should be canceled, there should be no audience, or the gym director should see to it that no beer is brought into the gym. However, you don't want to be responsible for getting the kids really angry. You've set up a community relations program with the town's teenagers, and if you come down on the basketball program or the students in the school you're liable to ruin all the good work you've done so far to improve police-teenage relations. Moreover, you don't have enough officers to patrol every bus, even if you wanted to.

The meeting with the gym director, a basketball player on the team, the student council president, the school principal and the transit authority has just begun. What do you say should be done?

MINI-UNIT 2

DEVELOPING SKILLS TO IDENTIFY AND USE PUBLIC TRANSPORTATION

This mini-unit is a basic one, designed to help students develop two sets of skills: the ability to identify public transportation and the ability to use it. Many students are not aware of what "public transportation" refers to and do not realize, for example, that taxis, ferries, and commuter trains are forms of public transportation and that carpools might be considered a form of public transportation, as well. Other students who may be familiar with public transportation modes may be unaware of how to use them--where they are located in their community, what areas they serve, how much they cost, and how to select the right bus or subway for a given trip.

Specific concepts treated in the unit include

- Citizens need to learn about many different aspects of public transportation if they are to use it effectively.
- People tend to lack awareness of the full extent to which they depend on automobiles for their travel needs.
- People tend to ignore the possibilities for using public transportation and carpools for some of their travel needs.
- Understanding the problems that drivers of public transportation vehicles have can make using public transportation more pleasurable.
- Using public transportation effectively requires advance knowledge of the services available, schedules, and fares.

Three of the activities in this unit (Activities 9, 10, and 11) may not appear usable in communities in which there is no public transportation or only one mode of public transportation. However, students in such communities can--and should--still conduct these activities by *imagining* they live in a community (their own or some other town) in which there is at least one mode of public transportation. Furthermore, these activities can be conducted in communities without public transportation by focusing on the opportunities carpooling provides for making more efficient use of the automobile.

Mini-unit 3, which follows this unit, focuses on learning to make choices among *different* transportation modes. That unit can logically be implemented after this unit. The two units together form a natural learning progression from identifying to using to making choices among transportation modes.

MINI-UNIT 2 LESSON PLAN

Developing skills to identify and use public transportation

Activity #	*Activities*	*Class Time*
8[a]	DESCRIPTION: Students discuss what the field of public transportation is composed of. GOAL: To understand the expression "public transportation" and what is involved in using public transportation.	½-1 period
9[a]	DESCRIPTION: Students assess their travel needs and evaluate whether and when they should use public transportation.[a] GOAL: To be aware of how we normally travel and be able to identify times when it is appropriate to use public transportation.	½-1 period
10[b]	DESCRIPTION: Students role-play scenarios involving operators and users of public transportation vehicles. GOAL: To know what constraints drivers of public transportation vehicles operate under.	½-1 period
11	DESCRIPTION: Students compile a community "Places To Go-Things To Do" booklet of places in their communities accessible by public transportation. GOAL: To be able to use public transportation.	1-2 periods

Total Class Time: 3-6 periods.

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[a] This activity also appears in Mini-unit 1.

[b] This activity also appears in Mini-unit 6.

ACTIVITY #8*

Mini-unit Topic: Identifying and Using Public Transportation

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss what the field of public transportation is composed of.*

Goal:
To understand the expression "public transportation" and what is involved in using public transportation.

Concepts Treated:

- Public transportation refers to particular types of travel whose nature can be specifically described.
- Citizens need to learn about many different aspects of public transportation if they are to use it effectively.

ACTIVITY

Begin the activity by asking students for *their* definition of public transportation and then revising it for the purposes of the particular mini-units that will be studied. The broadest definition consistent with all the activities in the Manual is

> Public transportation refers to all modes of travel operating within a community (as opposed to between states, etc.) involving vehicles that are publicly owned (for example, by the government) or are owned by private businesses (for example, a taxi company) as opposed to vehicles owned by private citizens, including automobiles, bicycles, and recreational vehicles. Public transportation also includes the facilities (for example, bus stop shelters and ferry docks) serving public transportation vehicles and passengers.

Having defined the field of study, the class then identifies the major aspects of public transportation that can usefully be studied *from the perspective of the transportation user (consumer)*. Supplement the students' catalog of topics worth studying with the items in the following list (all of which are treated in one or more of the following mini-units).

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*This activity also appears in Mini-unit 1.

What are the public transportation modes and facilities available in America and in our community?

1. What are the modes?

   - Bus?

   - Train?

   - Subway?

   - Taxi?

   - Ferry?

   - Light rail (trolleys)?

   - Carpooling?

   - Other (such as demand-responsive, cable cars, aerial tramways)?

2. How can we learn what services are available?

3. Why doesn't our community have some of these modes?

4. Has ridership increased, declined, or remained constant over the past decades? Have there been corresponding changes in the availability of public transportation services? (The use of public transportation decreased from a high of 23.2 billion passengers in 1945 to 6.56 billion in 1972. During this time, the number of passenger vehicle miles declined from 3.2 billion to 1.7 billion miles. Since 1972, the use of public transportation and the number of passenger vehicle miles have increased gradually. In 1975, it is estimated that there were 6.95 billion passengers on public transportation and the number of passenger vehicle miles reached nearly 2 billion. You might ask students to research whether these trends are consistent with public transportation in your area. (See also the chart at the end of this activity.)

5. If your community has only one mode of public transportation, is it sufficient? If not, how should it be expanded? Or should another mode be installed, rather than expanding the present mode? If your community has no public transportation, does it need some?

6. What plans are underway for the provision of public transportation in the future? If no plans exist, what modes does the class think are needed? Why? (See Activity 22 for examples of government plans in the field of public transportation.)

How can and should people decide when to use public transportation and which modes of public transportation to use? To what extent does the decision depend on

1. Knowledge of public transportation
2. Availability of public transportation?
3. Convenience, speed, cost, safety, and comfort?
4. Familiarity with the operations of public transportation
5. Feelings about public transportation and automobiles, such as inappropriate fears of getting lost and strong desires to use a fast or glamorous automobile
6. Concerns about the social, environmental, and energy-depleting effects of excessive reliance on automobiles and concerns about attaining a balance in the use of transportation modes

How does one go about using public transportation?

What actions can citizens take to improve public transportation or have it installed if it does not exist?

1. It is important for citizens to become involved in decisions involving public transportation? Why or why not?
2. What types of actions can citizens take to improve public transportation services--for example, persuading friends and family to use them more often or more appropriately? participating in transportation planning? engaging in political action such as voting and petitioning public officials? seeking redress of grievances? initiating carpools?
3. How can citizens also promote more efficient use of the automobile?
4. About what public transportation issues can and should citizens become involved in--for example, safety? availability of services? discriminatory services? funding problems? fares? environmental considerations?
5. What actions can citizens take to meet the grievances that operators of public transportation have against citizens, such as vandalism and discourtesy?

Evaluation Method:

Students describe the components of the field of study, "public transportation education," and indicate why each component is important.

Variations and Supplementary Activities:

Class can break into small groups, with each group responsible for developing its own definition of public transportation and identifying its own list of topics that can be considered to fall within the field of public transportation education.

Students can interview public transportation officials in their community about what they think the components of the field are and how they define public transportation. Students compare the officials' definitions with their own and resolve any discrepancies. A public transportation official can also be invited to class to discuss these issues.

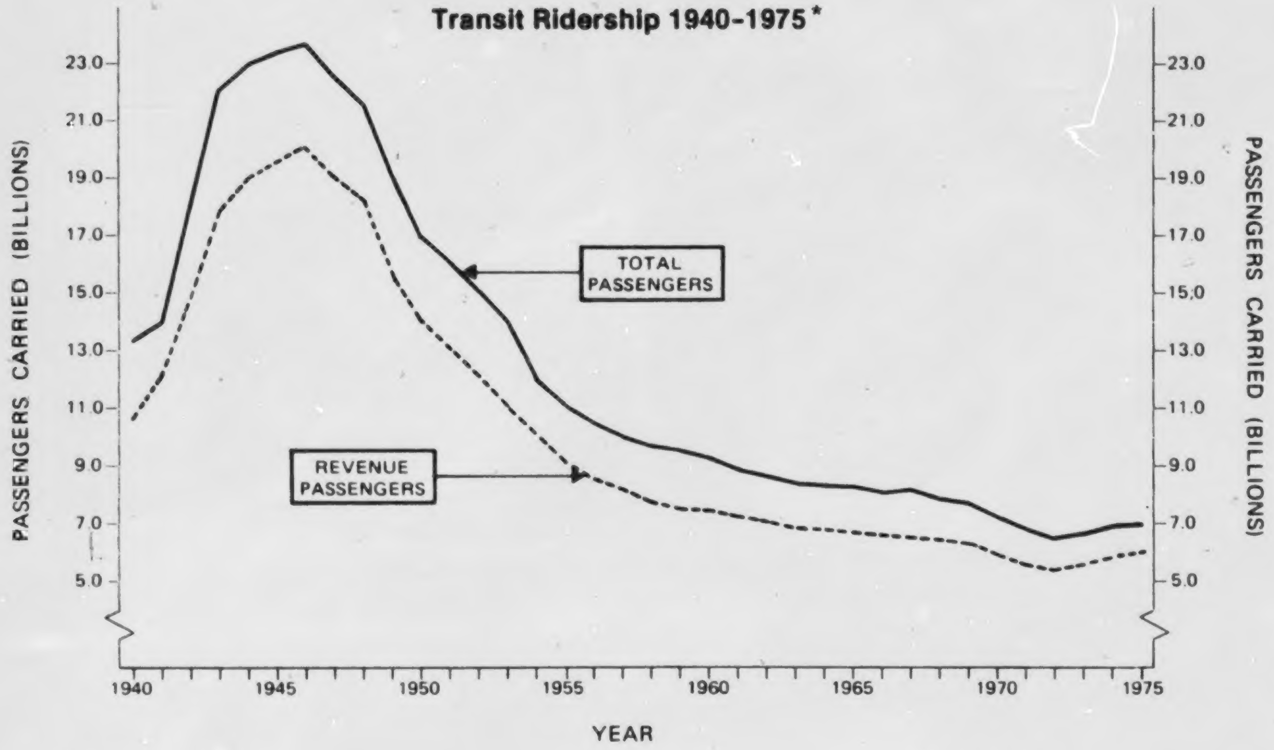
Transit Ridership 1940-1975*

*Chart was taken from *Transit Fact Book*, courtesy of the American Public Transit Association, Washington, D.C.

ACTIVITY #9*

Mini-unit Topic: Identifying and Using Public Transportation **Approximate Class Time:** ½-1 period

Capsule Activity Description: Students assess their travel needs and evaluate whether and when they should use public transportation.*

Goal:

To be aware of how we normally travel and be able to identify times when it is appropriate to use public transportation.

Concepts Treated:

- Many people are unaware of what transportation modes they regularly use and how often they use them.
- People tend to lack awareness of the full extent to which they depend on automobiles for their travel needs.
- People tend to ignore the possibilities for using public transportation and carpools for some of their travel needs.

ACTIVITY

For a period of several days, students keep a log of all the traveling they do by motorized and nonmotorized (e.g., bicycling, walking) modes of transportation, including carpooling. For example,

Tuesday

Rode bus to school
Took bus home
Rode bike to Billy's house
Billy's mother drove us to the pool and home again
Rode bike to my house
Took bus to library
Walked home

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*This activity also appears in Mini-unit 1.

Wednesday

Took bus to school
Went on field trip to local dairy by bus
Took bus home from school
Mother drove me and neighbor to trumpet lessons
Walked home
Walked to the drug store and home again

Thursday

Mother drove me to school this morning (missed bus)
Mother picked me up at school - had to go to the dentist
Picked Davy up at the train station and went home

At the end of the week, students tabulate their total number of trips and the number of trips by each transportation mode. A running total is kept on the number of trips by each transportation mode. Keep a running tally on the blackboard. Then discuss the following issues with the class in light of these results:

- How would your life be different if there were no way to travel--even short distances?

- If all automobiles suddenly disappeared, how would people get around?

- If your parents' car were stolen or in the repair shop for a long time, how would that affect your ability to get around?

- If you aren't using public transportation or carpools now, for which of your travel needs could you use them?

Evaluation Method:

Students cite instances in their personal lives where travel by public transportation would be fitting and explain why.

Variations and Supplementary Activities:

Students can perform the same activity in terms of ways in which they could make more efficient use of the automobile for the trips recorded in their logs--for example, by carpooling and consolidating trips.

If there is no public transportation in the local community, students can conduct the activity by discussing whether any of the trips they recorded in their logs *could* have been taken by public transportation if there *were* buses, trains, etc. in their community and whether they would have actually used these public transportation modes instead of driving or walking.

ACTIVITY #10*

Mini-unit Topic: Identifying and Using Public Transportation **Approximate Class Time:** ½-1 period

Capsule Activity Description: Students role-play scenarios involving operators and users of public transportation vehicles.*

Goal:

To know what constraints drivers of public transportation vehicles operate under.

Concepts Treated:

- Public transportation employees sometimes have difficulty providing the best possible service.
- Understanding the problems that drivers of public transportation vehicles have can make using public transportation more pleasurable.

ACTIVITY

Students role-play operators of public transportation services and passengers in everyday situations. A sample set of role profiles appears at the end of the activity. Students in communities that have no public transportation (as well as students whose towns do) can role-play the second set of role profiles, which focus on a carpooling dispute.

Choose students for each part and then proceed with the role-play using one of the following two approaches:

1. Send the students from the room or out of hearing. Read the profiles to the class and, if desired, briefly discuss the situation. Call the students back into the room. Each one then reads his or her role profile to him or herself.
2. Have the students chosen for the role-play read their profiles silently to themselves, act the situation out, and then read them to the class.

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*This activity also appears in Mini-unit 6.

The option you choose will, to some extent, determine the direction your discussion takes.

After using the role-play provided, have students develop additional role profiles and act them out.

After each role-play, participants discuss the feelings they had while role-playing. For example, the operators of the vehicles relate how they felt while in that particular situation. The passengers relate their feelings about the same situation. Nonparticipants discuss the pros and cons of each occupation role-played and the public's expectations of the people who hold these jobs. List on the chalkboard the skills and personality traits, as seen by the students, necessary for each job. Another list is drawn up of ways in which passengers and other motorists can aid operators of public transportation vehicles and, by so doing, help themselves.

Evaluation Method:

Students write hypothetical "want ads" for drivers and describe the skills and personality characteristics needed for the job.

Variations and Supplementary Activities:

You can invite someone from the personnel office of a public transportation system to class to explain what skills and characteristics they look [illegible] in their employees and how the public can help improve service and make the system more responsive to its demands.

Students can develop the ideal public transportation employee and ideal passenger.

Students can write their own role profiles and act them out.

Sample Role Profiles

Bus

Bus driver

This is the first run of the day and already you are behind schedule. A heavy rain is making traffic very slow, you are frustrated, and your passengers are angry because you are late and they are wet. You try to do your best to stay on schedule and get people where they are going on time, but it's not always easy. Anyway, what can you do to improve the weather or the traffic? It's days like today that make you wish you had never learned to drive. Just now you are coming to a bus stop where someone is waiting in the rain to get on.

Passenger

This rain *has* to stop. This is the second time this week that it has poured, which means this will be the second time in a week you will be late for work and arrive soaking wet as well. You can't understand why it always takes longer for the bus to get places when it rains--you think service should be better on those days. And the shelter at the bus stop is too small for all the people who wait there. Again, today, you are standing out in the rain with no umbrella, getting very wet. And, when the bus does get here all the seats will be taken. You are getting madder and madder with each passing minute. If and when that bus gets here, you are going to give the driver a piece of your mind.

Carpool

Carpool passenger

You are a member of a carpool that has two other members in addition to yourself. You all use the carpool for commuting from home to work and back each day. However, although all three of you work at the same place, your job starts 30 minutes before your friends' starting time, and you get through with work 30 minutes before they do.

Since you have a different schedule, you would like the carpool driver to pick you and the other passenger up a half hour earlier so you can get to work when your jobs begins. Otherwise, you have to work during lunch break to make up for getting to work 30 minutes late. You would also like to leave 30 minutes early at the end of the day so you can get home that much sooner and relax. You've decided to ask the driver if he will change his schedule for you. You feel that since you contribute the same $10 a month for gas and oil as the other passenger, the driver should pick you up earlier.

You have just telephoned the driver. What do you say?

Carpool driver

You drive yourself and two other workers to work and home every day as a carpool, since you all work at the same place. Each of the two passengers gives you $10 a month to help pay for gas and oil. However, you know that one of the passengers starts work and gets through with work 30 minutes earlier than you and the other passenger. You've been worried that he might ask you to pick him up earlier and take him home earlier. Since you own and drive the car, you could decide when to pick people up and take them home. And you really need the $10 each passenger gives you each month for gas and oil.

The problem is, you need to let your children off at school before you pick up your two friends, and you may not have time to do that if you have to pick up the "early" worker 30 minutes earlier each day.

The "early" worker has just telephoned you. You wonder if he is going to ask you to pick him up earlier. What will you say if he does?

ACTIVITY 11

Mini-unit Topic: Identifying and Using Public Transportation **Approximate Class Time:** 1-2 periods

Capsule Activity Description: Students compile a community "Places to go--Things to do" booklet of places in their communities accessible by public transportation.

Goal:
To be able to use public transportation.

Concepts Treated:

- Using public transportation effectively requires advance knowledge of the services available, schedules, and fares.
- Information about the availability of public transportation service can be obtained from transit authorities.
- Different travel modes often complement each other.

ACTIVITY

Students brainstorm a list of favorite places and points of interest within the community. Then break the class into small groups and distribute the items on the list to each group.

Students write short, one to four sentence descriptions of each place. They determine whether these places are accessible by public transportation and then find out how to get there by one or more of the modes available.* This can be done by students calling the bus company, subway, light rail (trolleys) or train stations, or by examining systems maps obtained prior to the activity. If there is no way of getting to

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*If there is no public transportation in the local community, students can conduct the rest of the activity by identifying what modes of public transportation *would* be most useful for getting to these destinations *if* they *were* available in their community and why their community does not provide these modes of travel. Students can also discuss how carpools might be formed if two or more people wanted to go to each one of these places.

one or more of these places by public transportation, students indicate this at the end of the description.

Example

Hyde Park Zoo, 225 Hyde Park Drive

The zoo is a good place to visit in the spring or fall--it can be very hot there in the summer and sometimes smells bad. The snake house is a must to see, as are the bird cage, lions' den, and elephant grounds. If you don't bring a picnic lunch, buy a hotdog or two--they're really good. Admission is 50¢ for kids and $1.25 for adults.

To get there: the green line subway goes right by the zoo. Get off at Hyde Park Station. Bus #45 from the center of town also stops at the entrance to the zoo. The subway runs every 15 minutes. The bus runs every 20 minutes.

Each group is responsible for the content of its descriptions. These should be changed only if there is widespread disagreement among the rest of the class.

When groups have completed their descriptions, they are read to the class. Students comment on their clarity and appropriateness of content.

Gather all the descriptions and put then into booklet form. The class gives its "publication" a name, such as: "Places to Go--Things to Do"; "Having Fun in ________"; "A Leisure Time Guide to ______"; "Where to Go in your Free Time."

Evaluation Method:

Students use public transportation to get to one of the destinations listed in their booklet, following the instructions provided.

Variations and Supplementary Activities:

Students can illustrate their descriptions.

If duplication is possible, copies of the booklet can be distributed to other students, parents, the community, and school and neighborhood libraries.

Students can update their booklet periodically.

MINI-UNIT 3

LEARNING TO MAKE CHOICES AMONG DIFFERENT TRANSPORTATION MODES

This unit is designed to help students develop skills in selecting, from private and public transportation modes, the best way to travel in their communities and then making the most efficient use possible of the modes they select. Particular attention is given in the unit to the reliance many people place on the automobile for most of their travel needs. Students are asked to consider whether such reliance is excessive and whether it could be reduced by increased patronage of public transportation and use of carpools.

The unit also stresses that students should be concerned with helping society in general and their communities in particular to attain a balance in the use of transportation modes and that one way to achieve this balance is for the public to increase its use of public transportation and carpools.

Teachers may choose to schedule this third mini-unit after the previous one.* Having learned in the previous unit to identify public transportation vehicles and having developed the ability to use them, students can naturally move on to a study of how to make choices among different transportation modes.

Specific concepts addressed in the unit include

- Selecting the best method of traveling requires identifying and weighing the advantages and disadvantages of different modes of transportation.
- The harmful and beneficial effects of different transportation modes on the environment should be identified and weighed in deciding how to travel.
- There are emotional as well as practical reasons for deciding how to travel.

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*As with the previous unit, this unit's activities can be used in communities in which there is no or only one mode of public transportation if students imagine they live in a community in which there is at least one mode of public transportation.

- The decision of which mode of transportation to use is one that must be made again and again in the light of varying travel needs and destinations.
- Carpooling reduces the harmful effects of excessive automobile use on the environment and conserves energy resources.

MINI-UNIT 3 LESSON PLAN

Learning to make choices among different transportation modes

Activity #	*Activities*	*Class Time*
12[a]	DESCRIPTION: Students play a game in which they arrange community trips using the most appropriate mode of public transportation. GOAL: To be able to select methods of travel in ways that include considerations of environmental impact, costs, convenience, safety, and speed.	1 period
13[a] Spirit Master #1	DESCRIPTION: Students discuss the advantages and disadvantages of using public transportation in general and in their community in particular. GOAL: To know the advantages and disadvantages of using different modes of transportation.	1½-2 periods
14	DESCRIPTION: Students take a trip using both public and private transportation modes. GOAL: To be able to select the best way to travel to a given destination in the community.	1 period plus out-of-class time
15[a]	DESCRIPTION: Students discuss America's alleged love affair with the automobile and how this may have affected patronage of public transportation. GOAL: To be aware of the many reasons people drive cars and how this may have affected patronage of public transportation.	½-1 period

[a] This activity also appears in Mini-unit 1.

MINI-UNIT 3 LESSON PLAN (CONTD.)

Learning to make choices among different transportation modes

Activity #	Activities	Class Time
16	DESCRIPTION: Students discuss whether carpooling can be considered a form of public transportation and appraise its advantages and disadvantages. GOAL: To be aware of carpooling as a potentially important transportation mode, with distinct advantages and disadvantages.	½-1 period

Total Class
Time: 5-6
periods.

ACTIVITY #12*

Mini-unit Topic: Choosing Among Transportation Modes **Approximate Class Time:** 1 period

Capsule Activity Description: Students play a game** in which they arrange community trips using the most appropriate mode of public transportation.*

Goal:

To be able to select methods of travel in ways that include considerations of environmental impact, cost, convenience, safety, and speed.

Concepts Treated:

- Selecting the best method of travel requires identifying and weighing the advantages and disadvantages of different transportation modes.
- Considerations of time and money are two major factors influencing how people do and should travel.
- There are emotional as well as practical reasons for deciding how to travel.
- The decision of which mode of transportation to use is one that must be made over and over in the light of varying travel needs and destinations.

ACTIVITY

The decision whether or not to use public transportation is one that many citizens must make every day. It is never possible to decide once and for all to use only public transportation or to use only the automobile. That decision will always depend on various considerations and must often be made daily in light of those factors. The following activity illustrates this decision-making process.

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*This activity also appears in Mini-unit 1.

***Transportation Game.* © Abt Associates Inc., 1972 (excerpted here by permission). Complete classroom kit available at $24.00 plus $1.50 shipping and handling from: Games Central, 55 Wheeler Street, Cambridge, Massachusetts 02138.

Overview

Students, acting as travelers, are given "Place Cards" which give information about a "trip," the points of departure and destination, purpose of the trip, time constraints, and the funds available for the journey. Travelers* plan the trips by consulting with representatives of various transportation industries--bus line, light rail (trolley), taxi company, and automobile drivers' club. From these representatives, the travelers get information concerning fare and time schedules with which they make their choices and determine the most appropriate way for them to travel. Included in the game is a set of transportation schedules. These have the individual costs already calculated and need only be coordinated with the time constraints as outlined on the Place Cards. (Sample "Place Cards" and "Transportation Schedules" are provided at the end of Activity #3.)

How to Play

Prior to play, select four students or ask for volunteers to be "transportation representatives" for the first game (students switch off for the second game). If 20 or more students are playing, it might be wise to have eight transportation representatives at one time--two for each transportation mode.

Arrange the representatives in distinct sections of the room. Representatives make signs for their company (e.g., Drab Cab Company, Good Time Trolley, What-A-Bus Company, Hitch-A-Ride Drivers' Club) and are given their respective schedules. If two students are acting as transportation representatives, each takes half the schedules.

The rest of the class acts as "travelers." Each traveler receives a Place Card.

Tell the travelers that the object of the game is to determine the *mode of transportation, fare, and length of trip that best fit the conditions indicated on their Place Cards*. In order to do this, the travelers must consult with the various transportation representatives to obtain information on cost and total trip time. (Paper and pencils will be needed.) When a student arrives at an appropriate answer (mode of transportation and departure time), it is checked with you. Allow enough time for all students to complete their problems.

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*Students can work in pairs on each Place Card, making the task less demanding on individual students and providing an opportunity for students to assist each other.

Special Rules

The following rules are explained to the students:

- Students' answers include mode of transportation, fare, and total trip time.
- Students figure out the costs only for one-way trips.
- All fares are given for one person.

At the conclusion of the game the class discusses the following issues:

- What are some of the advantages and disadvantages of each mode of transportation?
- What are some of the emotional reasons why people might select a type of transportation that might not necessarily be the most economical or quickest method to get somewhere?
- Should people be influenced in their choice of travel mode by such considerations as desires for privacy, excitement, or power? Which considerations? Why?
- Should communities provide more than one type of public transportation for their residents? Why?

Evaluation Method:

Game is self-evaluating.

ACTIVITY #13*

Mini-unit Topic: Choosing Among Transportation Modes   **Approximate Class Time:** 1½-2 periods

Capsule Activity Description: Students discuss the advantages and disadvantages of using public transportation in general and in their community in particular.*

Goal:

To know the advantages and disadvantages of using different modes of transportation.

Concepts Treated:

- Selecting the best method of travel requires identifying and weighing the advantages and disadvantages of different transportation modes.
- Most modes of transportation have both advantages and disadvantages to using them.
- A major advantage in using public transportation is that such patronage helps attain a balance in the use of all transportation modes.
- The harmful and beneficial effects of different transportation modes on the environment should be identified and weighed in deciding how to travel.

ACTIVITY

Duplicate copies of the check sheet provided on Spirit Master #1 and distribute two copies to each student. Each student fills in one, placing check marks in the boxes to indicate good features they feel different modes of public transportation offer *in general,* without special reference to their community. For example, taxis in general offer a fair amount of privacy; subways use energy relatively efficiently. Students then think *of their own community* and then place check marks in the boxes of the second copy of the chart to indicate good and bad features they feel different modes of public transportation offer *in their community.*

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*This activity also appears in Mini-unit 1.

In communities with only one mode of (or without) public transportation, students should consider (1) what *would* be the pros and cons of various modes that might be installed in their community and (2) why there is only one mode or no public transportation.

The class then breaks into small groups. Each group compares its members' sheets and discusses discrepancies among them until it is able to develop (using two more blank sheets) a consensus on the positive and negative features of public transportation (1) in general and (2) in their community.

Each group presents its results to the class and the opinions of all the groups are compared. Disagreements among groups are discussed and explained. Follow-up discussion is held to consider which of the seven (or more, if students added to the list) general features of public transportation are most important and why--that is, which of these features would be most likely to motivate a citizen to use public transportation instead of a car or use one particular mode of public transportation instead of another. The features can be rank ordered from most influential to least important.

Be sure to point out that one of the major needs in most American communities today is to achieve a balance in the use of all transportation modes. To the extent that people increase their use of public transportation and rely less on the use of automobiles, they will be contributing to the attainment of a balanced transportation system in their community.

You can also point out that as a supplement to this approach to creating a balanced transportation system, the public can also make more efficient use of the automobile by using carpools, engaging in trip consolidation, and practicing energy-conserving driving techniques.

Conclude the activity by inviting an official of a local public transportation system to come to class (preferably with a bus) to react to and expand on the students' conclusions regarding the good and bad features of using public transportation.

Evaluation Method:

Students describe the advantages and disadvantages of traveling to a particular destination in their community by bus, trolley, taxi, ferry, or carpool, depending on the availability of these modes of transportation where they live.

Variations and Supplementary Activities:

For some classes, it may be best to use this activity after students have researched some of the advantages and disadvantages of public transportation so that they have a fund of information to rely on in filling out and discussing the check sheets.

This activity can be simplified or made more complex in a number of ways. For example, students can fill in one chart as a class, considering only their own community's public transportation facilities. Students can also refine the sublistings under each of the seven features to include time of day travel occurs, type of person doing the traveling (e.g., handicapped? child?), weather condition, or comparisons with walking or bicycling as alternative modes of travel. For example, taking a ferry may be more comfortable to use in cold, heat, rain, or snow than buses for which one may have to stand outdoors awaiting their arrival. On the other hand, taxi are expensive. Buses may not run frequently after 8:00 p.m.

Students can adapt the chart into a questionnaire and poll the community to learn its attitudes toward the advantages and disadvantages of using public transportation.

Students can insert private modes of transportation at the top of the chart and draw comparisons between them and different forms of public transportation. See example below:

	Bus	Train	Subway	Taxi	Light Rail (Trolleys)	Ferry	Automobile	Walking	Bicycle	Motorcycle	Carpool

Students in a community with no public transportation or with only one mode can pick a community about which they have some information (e.g., nearest big city) that is different from their own community in terms of size and types of public transportation available and complete the chart for that community. Students compare and discuss results.

Students can discuss how carpooling and more efficient use of automobiles help the environment but may involve inconvenience.

ACTIVITY #14

Mini-unit Topic: Choosing Among Transportation Modes

Approximate Class Time: 1 period, plus out-of-class time

Capsule Activity Description: Students take a trip using both public and private transportation modes.

Goal:

To be able to select the best way to travel to a given destination in the community.

Concepts Treated:

- Using different methods to travel to the same destination is one helpful way of identifying the best transportation mode to use for similar trips.
- Selecting the best method of traveling requires identifying and weighing the advantages and disadvantages of different transportation modes.
- The harmful and beneficial effects on the environment of different transportation modes should be identified and considered in deciding how to travel.
- People should consider how their travel behavior may help to promote balance in the use of various transportation modes.
- The decision of what travel mode(s) to use is one that must be made again and again in the light of varying travel and social needs.

ACTIVITY

Divide the class into two groups. (If the groups are still too large, you may be able to further divide the class if you can get help in supervising the field trip.) Decide on a destination that can be reached by using both public transportation and private car. Students can decide what might be a good destination. (You may also want to try this experiment on a field trip that is already planned.)

Half of the class goes by public transportation, the other half by private car. On the way back, the two groups switch transportation modes. After arriving back at school, the students discuss the trips and compare the two modes. So that students will know what to look for, have them draw up a list before the trip of what to take note of, such as

Departure time, arrival time, and total time of trip.

Cost. Tickets and transfers for public transportation, and gasoline and oil for car. Older students should also take into account depreciation, insurance, license, and repairs. Younger students may have to be given a cost-per-mile figure for a car; 20¢ is probably a minimum. Add parking costs if there are any. Students should compile costs for one-person travel and carpooling. If the use of public transportation requires a drive to the station, then that cost must also be counted.

Comfort. In terms of waiting time, closeness to destination, crowdedness, and presence or absence of air conditioning.

Availability. Was the public transportation always or readily available? Did they have to wait for a driver? Did they have to use more than one mode of transportation?

Dependability. Were there any breakdowns? Was the public transportation on schedule? Was the private car on schedule?

Convenience in bad weather. Which mode required less exposure to rain, snow, or heat?

Environmental considerations. Which mode is less harmful to the environment? Which uses less energy per passenger mile? Which causes the most pollution per passenger mile? (For example, a car and a bus may cause the same amount of pollution each mile they travel, but the bus' pollution per mile must be divided by the number of passengers it usually transports--see charts at the end of this activity.)

Taking these points into consideration, the students discuss which was the better way of getting to the destination. They will have to discuss tradeoffs among costs, convenience, speed, etc. and take into account important environmental and social concerns. The decision of whether or not to use public transportation is one that many citizens must make every day. It is never possible to decide once and for all only to use public transportation or only to use the private automobile. That decision will always depend on various considerations and must be made daily in light of those factors.

Evaluation Method:

Students develop a short flyer answering common questions the public may have about public transportation and leave the flyer in the library for public use.

Variations and Supplementary Activities:

Several small groups use different mode(s) of public transportation for a week or so and report their experience to the class. Again, trade-offs will have to be discussed for train, subway, bus, taxi, etc. An observation sheet similar to the one described will have to be developed so that students will be in a position to make a useful report. To make their observations more useful, have them establish priorities among the various categories: i.e., list the most important considerations first, then the second most important, etc. (For example, one student might have this order: availability, cost, safety, convenience; another might put cost first.)

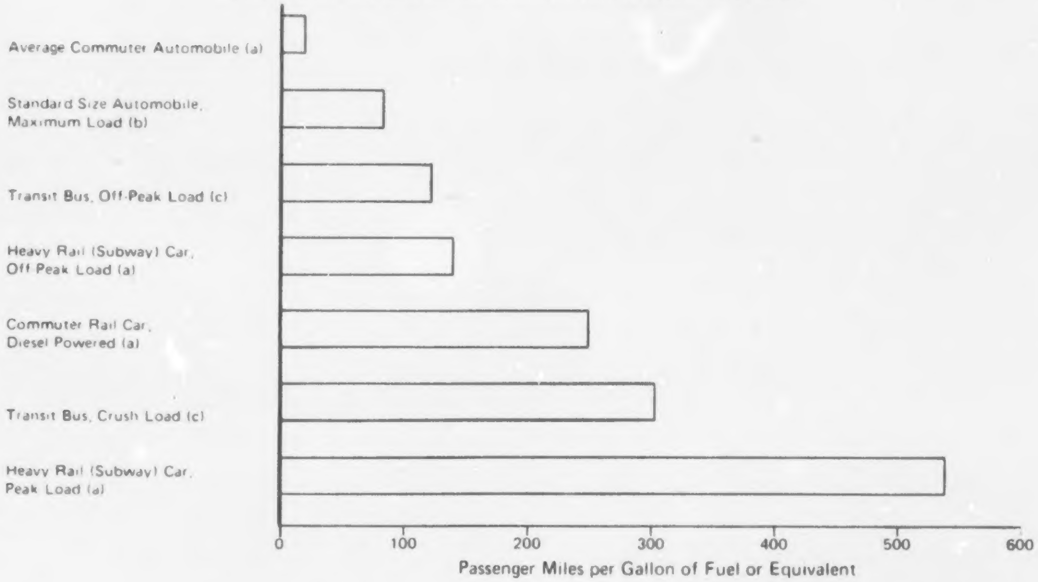
Another variation might be to ask each student to identify a trip he or she often makes (to the store, to the doctor, to visit a relative) and then have him or her take that trip using a different public transportation mode. Again, the important part of the activity is the preparation of the observation sheet beforehand, so that students can report on their new travel mode and compare it with the old one.

Energy Requirements of Passenger Transportation Modes *

	ASSUMED PASSENGER LOADING	VEHICLE MILES PER GALLON OF FUEL OR EQUIVALENT	PASSENGER MILES PER GALLON OF FUEL OR EQUIVALENT
Heavy Rail Transit (Subway) Car Peak Load (a)	135	4.00	540
Intercity Passenger Train (b)	540-720	0.50	270-360
Transit Bus, Peak Load (c)	75	4.10	307
Intercity Bus (d)	47	6.00	282
Commuter Rail Car Diesel Powered (a)	125	2.00	250
Heavy Rail Transit (Subway) Car Off-Peak Load (a)	35	4.00	140
Transit Bus Off-Peak Load (c)	30	4.10	123
Rail Turbine Train (b)	320	0.33	110
Standard Size Automobile, Intercity Maximum Load (e)	6	18.00	108
Standard Size Automobile Urban Maximum Load (e)	6	14.40	86
Wide-Body Commercial Jet Aircraft 1,000 Mile Flight (f)	256-385	0.14-0.22	54-60
Twin Jet Commercial Aircraft 500 Mile Flight (f)	68-106	0.44-0.54	37-47
Average Commuter Automobile (a)	1.4	13.5	19

Sources
(a) Commonwealth of Pennsylvania, Department of Transportation
(b) National Railroad Passenger Corporation (Amtrak)
(c) Cleveland Transit System
(d) U.S. Department of Transportation, Transportation Systems Center
(e) U.S. Department of Transportation, Federal Highway Administration
(f) National Aeronautics and Space Administration

Energy Comparison of Urban Transportation Modes



Sources (a) Commonwealth of Pennsylvania, Department of Transportation
(b) U.S. Department of Transportation, Federal Highway Administration
(c) Cleveland Transit System

*Taken from *Transit Fact Book*, Courtesy of the American Public Transit Association, Washington, D.C.

ACTIVITY #15*

Mini-unit Topic: Choosing Among Transportation Modes

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss America's alleged love affair with the automobile and how this may have affected patronage of public transportation.*

Goal:

To be aware of the many reasons people drive cars and which reasons are appropriate.

Concepts Treated:

- Many people have emotional as well as practical reasons for driving cars.
- The harmful and beneficial effects of different transportation modes on the environment should be identified and considered in deciding how to travel.
- Consumers need to evaluate the appropriateness of using automobiles to satisfy emotional needs in light of the harmful effects on the environment that excessive automobile use causes and the imbalance in the use of transportation modes that it creates.
- Adolescents should think about their attitudes toward automobiles at an early age so that when they get their drivers' licenses they will consider using public transportation as an alternative to the automobile.

ACTIVITY

Students write their response to the following instructions and scenario:

> It was the biggest event of my life. I had been looking forward to it for at least four years, and the last year was an agony of waiting for my dream to come true: a car! At last I'd be able to do all the things I'd been waiting for.

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*This activity also appears in Mini-unit 1.

1. Do this teenager's feelings reflect the way *you* now feel about the time when you will be able to drive? If *not*, write a few sentences summing up your own feelings on this score?

2. Write down all the reasons you think *this teenager* was so eager to drive.

During the following class session, students break into small groups and are given written instructions to read each other's papers and discuss one or more of the following issues:

1. What feelings you described in your statements about looking forward to driving.

2. What responses you gave for why the teenager was so happy to be able to drive.

3. What other reasons people have for driving cars.

4. Which of these reasons involve the use of cars as a necessity, a luxury, or an important means of transportation that *public transportation or carpooling could not provide nearly as well.*

5. Explanations for why people prefer cars to public transportation.

6. Whether or not it is desirable and possible to change Americans' attitudes about cars, and if so, how.

7. What arguments there are for using public transportation and carpools in certain circumstances rather than automobiles.

8. How these arguments could be presented to the motoring public effectively and who should be responsible for educating the public to the importance of reducing its reliance on automobiles (or making more efficient use of the automobile) and increasing its use of public transportation.

9. How these arguments could be presented to students between the ages of 11 and 14, in an effort to develop different attitudes toward their future use of automobiles.

Groups report their conclusions to the class and respond to comments and questions from class and you. Raise for discussion additional reasons some people have for preferring to travel by car rather than by public transportation, such as privacy; convenience (door-to-door service); comfort (regulated heating, uncrowded, seats available); mobility and independence; power symbol; apparent cost-effectiveness (no money is paid during most trips); speed (often less time consuming than other travel modes); appearance (driver can show off a big, expensive, sporty, or otherwise ego-building car); flexibility (can stop and get out or take side trips at will); and lack of public transportation.

Evaluation Method:

Students debate whether the activity has modified their own feelings of anticipation of the day when they will receive licenses to drive.

Variations and Supplementary Activities:

Students can poll friends and neighbors on reasons they wanted a driver's license when they became of age.

Students can discuss whether a reduction in the use of automobiles (or more efficient use of the automobile) would have adverse effects on the economy and on employment.

ACTIVITY #16

Mini-unit Topic: Choosing Among Transportation Modes

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss whether carpooling can be considered a form of public transportation and appraise its advantages and disadvantages.

Goal:

To be aware of carpooling as a potentially important transportation mode, with distinct advantages and disadvantages.

Concepts Treated:

- Carpooling reduces the harmful effects on the environment of excessive automobile use and conserves energy.
- Carpooling has other advantages but also distinct disadvantages.
- Carpooling has features that make it similar to and different from public transportation.
- The harmful and beneficial effects of different transportation modes on the environment should be identified and weighed in deciding how to travel.

ACTIVITY

Prior to this activity, students might engage in Activity 1 in which they discuss what is meant by "public transportation." Class then discusses whether it feels carpooling can be considered a form of public transportation. Regardless of its conclusions in this respect, students move on to discuss the advantages and disadvantages of carpools. You can raise for consideration the following points:

Advantages

- Reduces traffic congestion and air pollution
- Conserves energy resources
- Promotes sociability

- Reduces need for street maintenance
- Saves participants money (see cost-savings chart at end of this activity)
- May save participants frustrations associated with driving daily in traffic or long distances
- Particularly practical in areas where public transportation is not readily available

Disadvantages

- Loss of privacy
- Loss of flexibility in times of departure and arrival
- May involve increased time commuting in order to pick up other passengers
- May involve frustration of waiting for late passengers or embarrassment at leaving them behind
- May involve phone calls in cases of illness or other times when passenger or driver can't make the trip
- May involve discomfort of traveling with uncongenial passengers
- May prevent running errands during lunch hour

After discussing pros and cons of carpooling, class then discusses one or more of the following issues:

1. Should businesses provide special arrangements to facilitate the formation of carpools (e.g., maps indicating where employees live)?
2. Should businesses provide incentives for employees to form carpools or disincentives against employee use of automobiles to commute to work?
3. Should the government assist in the formation of carpools (e.g., by providing computer services), institute special benefits for carpools (e.g., special lanes on crowded highways during rush hour, reduced tolls on bridges), or engage in a media campaign to promote the use of carpools?
4. Should employees actively encourage each other to join carpools?

Evaluation Method:

Students role-play company employees who have joined carpools trying to encourage co-workers to do the same.

Variations and Supplementary Activities:

Students can develop questionnaires and administer them to parents or other community members asking about their attitudes toward carpools and whether they are in one, would like to join one, or are opposed to them.

Students can research the results of carpool experiments in businesses by interviewing employers and employees who have set them up.

Students can research incentives local governments have used to promote the use of carpools, for example, the provision of a special lane and reduced toll on the San Francisco-Oakland Bay Bridge in California.

Students compare carpools with taxis and discuss whether taxis should be allowed to carry several passengers who are going to different destinations.

Students can discuss whether free transportation provided by churches and community agencies for the elderly and handicapped or vans provided by companies as a shuttle service between plants should be considered "public transportation" and why.

CARPOOL SAVINGS

SEE HOW MUCH MONEY YOU CAN SAVE IN ONE YEAR BY CARPOOLING

FEDERAL HIGHWAY ADMINISTRATION

HOME TO WORK	ANNUAL ROUND TRIP COSTS AND SAVINGS	SUBCOMPACT (PINTO, DATSUN, VEGA, VW, COLT)	COMPACT (NOVA, DART, MAVERICK, PACER)	STANDARD (MATADOR, CUTLASS, LTD, CAPRICE)
10 MILES (20 MILES ROUND TRIP)	**COST OF DRIVING TO WORK ALONE**			
	GASOLINE AND OIL	$128	$176	$234
	MAINTENANCE AND REPAIR	97	109	130
	PARKING	145	145	145
	INSURANCE	166	176	189
	DEPRECIATION	110	143	250
	TOTAL	$646	$749	$948
	SAVINGS PER PERSON IN A:			
	2-PERSON CARPOOL	$281	$332	$427
	3-PERSON CARPOOL	361	427	553
	4-PERSON CARPOOL	402	474	617
	5-PERSON CARPOOL	425	502	654
15 MILES (30 MILES ROUND TRIP)	**COST OF DRIVING TO WORK ALONE**			
	GASOLINE AND OIL	$193	$264	$352
	MAINTENANCE AND REPAIR	145	164	195
	PARKING	145	145	145
	INSURANCE	166	176	189
	DEPRECIATION	166	215	374
	TOTAL	$815	$964	$1,255
	SAVINGS PER PERSON IN A:			
	2-PERSON CARPOOL	$366	$438	$581
	3-PERSON CARPOOL	473	569	758
	4-PERSON CARPOOL	528	635	847
	5-PERSON CARPOOL	559	674	899
20 MILES (40 MILES ROUND TRIP)	**COST OF DRIVING TO WORK ALONE**			
	GASOLINE AND OIL	$257	$352	$468
	MAINTENANCE AND REPAIR	193	218	260
	PARKING	145	145	145
	INSURANCE	166	176	189
	DEPRECIATION	221	286	499
	TOTAL	$982	$1,177	$1,561
	SAVINGS PER PERSON IN A:			
	2-PERSON CARPOOL	$449	$545	$734
	3-PERSON CARPOOL	585	712	963
	4-PERSON CARPOOL	654	796	1,077
	5-PERSON CARPOOL	693	845	1,145

EXAMPLES OF SAVINGS

A PINTO DRIVER AND A LTD DRIVER, WHO ARE NEIGHBORS, DECIDE TO COMMUTE TOGETHER TO WORK. THE TRIP IS 10 MILES EACH WAY SO THE ANNUAL SAVINGS FOR THE PINTO DRIVER IS $281 FOR THE 20 MILE ROUND TRIP. FOR THE LTD DRIVER IT IS $427, OR A CARPOOL TOTAL OF $708 SAVINGS BETWEEN THE TWO OF THEM.

FIVE STANDARD CAR DRIVERS IN A SMALL TOWN FORM A CARPOOL TO COMMUTE THE 20 MILES TO THE CITY TO WORK (40 MILES ROUND TRIP) WHICH GIVES EACH OF THEM AN ANNUAL SAVINGS OF $1,145 OR A TOTAL FOR THEIR CARPOOL OF $5,725.

MINI-UNIT 4

LEARNING TO RESPOND TO PUBLIC TRANSPORTATION EMERGENCIES

Compared with other modes of travel, the safety record of public transportation vehicles is excellent, and students should be aware of this fact. However, while it is unlikely that most persons will be involved in an emergency on a bus, taxi, subway car, ferry, or trolley, serious accidents do occur whose effects can be minimized. Buses occasionally get into traffic accidents, trains collide once in a while, and fires sometimes happen in subways.

When such emergencies do happen, many passengers or pedestrians are unaware of what they can do to reduce injuries or how they could have prevented the accident in the first place. This mini-unit offers students an opportunity to explore possible emergencies related to public transportation.

The unit is devoted to this major concept:

- Prior preparation and thought can often help people to respond appropriately when an emergency does occur on a public transportation vehicle.

Teachers in communities in which there is no public transportation can conduct these activities by having students who may have used public transportation during visits to other towns discuss what they feel might create potential emergency situations in the modes they used. Even in communities without public transportation these activities are important to study since many youngsters in these areas may move to towns and cities where they will use public transportation and need to know how to use it safely.

The knowledge and skills developed in this unit are transferable --students will be able to respond to emergency situations related to other forms of travel (for example, automobile, airplane) by applying what they learn in this unit to other transportation emergencies.

MINI-UNIT 4 LESSON PLAN

Learning to respond to public transportation emergencies

Activity #	*Activities*	*Class Time*
17 Spirit Master #3 and #4	DESCRIPTION: Students identify possible emergency situations on public transportation vehicles and anticipate what to do if they occur. GOAL: To be aware of possible emergencies on public transportation vehicles and know how to respond to them.	1-2 periods
18	DESCRIPTION: Students singly or in groups do research to learn what travelers should and should not do in order to enhance their safety on buses, subways, ferries, and light rail vehicles. GOAL: To identify safety tips for passengers on all modes of public transportation, as well as to understand regulations and procedures followed by carriers to minimize hazards.	1-2 periods plus out-of-class time
19	DESCRIPTION: Students prepare written or oral descriptions of emergencies they have experienced involving personal safety and relate them to public transportation emergencies. GOAL: To be aware of the role advance preparation and thought can play in developing appropriate responses to emergency situations on public transportation vehicles.	½-1 period

Total Class Time: 2½-5 periods.

ACTIVITY #17

Mini-unit Topic: Responding to Public Transportation Emergencies

Approximate Class Time: 1-2 periods

Capsule Activity Description: Students identify possible emergency situations on public transportation vehicles and anticipate what to do if they occur.

Goal:

To be aware of possible emergencies on public transportation vehicles and know how to respond to them.

Concepts Treated:

- Although infrequent, emergencies affecting safety do occur on public transportation vehicles.
- Citizens can improve their chances of avoiding injury and of helping others during emergency situations on public transportation vehicles if they are aware in advance of how to respond appropriately.

ACTIVITY

Begin the activity with a short discussion in which you list the various types of emergencies that can occur in public transportation.* You should point out initially that on a per-mile basis there are fewer accidents, injuries, and fatalities related to public transportation than there are involving automobiles so that students do not end up with the impression that traveling by public transportation is dangerous.

The major emergency concerns involving travel by public transportation follow.

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*If there is no public transportation in your community, you can have students who may have used public transportation in other communities describe their experiences and point out the potential emergency situations they may have observed.

Train (including light rail trains): collision; derailment; fire.

Subway: collision; derailment; power failure, fire, with the latter being the major concern because passengers and crew are trapped in a tunnel and because fires are always a possibility in light of the high-voltage electric wiring.

Bus: collision with other vehicle or with stationary object; fire.

Ferry: going aground; sinking; fire. Fire is again a major concern because passengers cannot easily leave the ferry, unless they can swim or have personal flotation devices. Drowning is an added hazard.

From the summary above, it is clear that one of the major hazards in all vehicles is fire. The seriousness of fire depends on the surrounding circumstances--but particularly on whether passengers can quickly and easily leave the scene of the fire. This is difficult in subways, because of the tunnel situation (dark, danger of electrocution, lack of oxygen, especially as the fire consumes more and more of it); it is also difficult in elevated trains, because of the high structure and the danger of electrocution, but less dangerous than in subway tunnels. In both cases, however, there is as much or more danger from smoke and gases (carbon dioxide, carbon monoxide) as from the fire (flames) itself.

Fire on a ferry is especially dangerous, because jumping from the ferry can cause death by drowning. Personal flotation devices (PFDs) by law must be available but are not routinely worn by passengers who use a ferry for commuting as they sometimes are by persons going on recreational boat rides.

The common factor in all these cases is that passengers must not be trapped--they must be able to get out quickly. Hence the importance of knowing where emergency exits are, how to operate them, and what to do after you get out of the vehicle. (But the case of the commuter ferry is special--exits are not the problem, but where to go.) Even more important is avoidance of panic--that is, actions that are irrational and endanger the person's life as well as everyone else's. Typical panic-induced actions are screaming, rushing toward an exit even if the way is blocked, jumping off high places or into water without consideration of what might happen. Panic is caused by the instinct to survive, but it often results in just the opposite if the actions taken are not rational or suited to the occasion. In order to avoid panic, passengers should know what to do before the need for action arises and should know how to act quickly and decisively without panic developing.

After the lecture, discuss with the students what to do in emergency situations. Ask them if any of them have been in emergencies on public transportation vehicles. Ask them to describe what happened. Then go over several of the more common emergencies and discuss what passengers should do, and especially, what they can do *beforehand* to prepare themselves for emergency action. Among these actions are locating the emergency exits on buses, subway, and elevated trains; knowing how to open them; and knowing how to open emergency windows (the push-out types). Other important things to remember are to follow instructions from the crew, to walk rather than run (to avoid falls and hurting other people), and to be extremely careful about live third rails.

Conduct a discussion in which possible emergency situations on public transportation are compared with those on other travel modes (e.g., cars, planes, trucks) in terms of frequency, severity, and type.

Conclude the activity by duplicating the story completion exercise on Spirit Masters #3 and #4, passing it out, and having students complete the story and compare their endings.

Evaluation Method:

Students describe potential public transportation emergencies for each other and then identify appropriate ways passengers should respond to them.

Variations and Supplementary Activities:

Students can research what are the most common type of accidents on public transportation facilities. Which accidents cause the most fatalities? Which the most injuries?

Students can describe what actions they would take in case of emergency in school and compare this to actions on a public vehicle.

Students can research actions being taken to improve the safety of transportation vehicles--for example, less flammable material for vehicle interiors.

ACTIVITY #18

Mini-unit Topic: Responding to Public Transportation Emergencies

Approximate Class Time: 1-2 periods plus out-of-class time

Capsule Activity Description: Students singly or in groups do research to learn what travelers should and should not do in order to enhance their safety on buses, subways, ferries, and light rail vehicles.

Goal:

To identify safety tips for passengers on all modes of public transportation, as well as to understand regulations and procedures followed by carriers to minimize hazards.

Concepts Treated:

- It is possible to identify common sense safety procedures that passengers should be responsible for following when traveling by public transportation.
- Certain Federal and local agencies have responsibility for issuing safety regulations that must be followed by carriers in various modes and by passengers.
- The carriers themselves have responsibility for developing and following additional safety procedures to insure that all possible hazards will be avoided.

ACTIVITY

Students do research for various modes of public transportation to gather the following information: recommended safety procedures for passengers on the mode; potential hazards connected with the mode; Federal and local government safety regulations for the carrier and its passengers in each mode; and additional safety procedures followed by carriers in the mode.

Students can gather this information by consulting books, magazines, and pamphlets in school and local libraries, and by contacting safety organizations (such as the National Safety Council, 425 North Michigan Avenue, Chicago, IL 60611); the community service divisions of local transit authorities that run bus lines, rapid transit lines, and ferries [such as BART (Bay Area Rapid Transit) in San Francisco, California and MARTA (Metropolitan Atlanta Rapid Transit Authority) in Atlanta, Georgia]; and professionals in the community who have a responsibility for transportation safety (such as policemen, the manager of a local ferry service, a bus driver, a subway or light rail vehicle operator, or the safety director of the local bus, rapid transit, or ferry company).

In doing their research, students will want to seek answers to such questions as these:

1. What commonsense safety tips can you suggest for passengers traveling on your mode?
2. Are you aware of any government safety regulations that passengers on your mode must follow?
3. Are there any state or local laws that regulate travelers' behavior and that were designed to enhance their safety?
4. Are there any safety tips, regulations, or laws concerning baggage that travelers should be aware of, when using your mode?
5. Are there any potential hazards on your mode which travelers can minimize or avoid by following certain safety tips? (What are the hazards? What are the appropriate safety tips?)
6. Concerning the potential hazards that you just mentioned, what safety regulations have been issued by the Federal government to minimize these dangers?
7. What additional procedures does your carrier follow to minimize each of these dangers?

Students report the results of their research and the class uses the information to prepare a chart that will illustrate potential hazards and suggested safety procedures for passengers. Some entries on the chart, for example, might look like this:

Public Transportation Mode	Potential Hazards	Safety Procedures Passengers Must Follow	Safety Regulations Carriers Must Follow	Additional Safety Procedures Instituted by Carrier	Additional Safety Tips for Passengers
Light rail vehicles	Being hit by approaching vehicle while waiting on station platform	Stand back of white line	Observe speed limits going through station	Warn passengers of approach over public address system	Do not lean over tracks to look for approaching train
Buses	Collision	Refrain from detracting driver's attention by talking	Obey applicable traffic laws	Use headlights at all times	Notice emergency exit and whether windows can be pushed out in emergency

Evaluation Method:

Each student selects one mode of public transportation and writes a brief fact sheet of safety tips for a passenger about to travel on that mode.

Variations and Supplementary Activities:

Students discuss and evaluate the answers they found to Questions 6 and 7 in the list above. Discussion can center on whether they consider the government's safety regulations and the carrier's additional safety procedures to be adequate.

Students research and report on procedures followed by Federal and local transportation agencies in issuing safety regulations, focusing particularly on discovering how citizens can participate in the rule-making process.

ACTIVITY #19

Mini-unit Topic: Responding to Public Transportation Emergencies

Approximate Class Time: ½-1 period

Capsule Activity Description: Students prepare written or oral descriptions of emergencies they have experienced involving personal safety and relate them to public transportation emergencies.

Goal:

To be aware of the role advance preparation and thought can play in developing appropriate responses to emergency situations on public transportation vehicles.

Concepts Treated:

- Prior preparation and thought can often help people respond appropriately when an emergency does occur on a public transportation vehicle.
- Some methods of anticipating emergencies on public transportation vehicles are more effective than others in learning how to respond appropriately when an emergency situation does arise.

ACTIVITY

There are several ways in which this activity can be conducted depending upon the grade level and writing ability of your students and upon their experiences. Young students and those who write poorly can describe to the class incidents in which they were personally endangered and had to react quickly (or failed to do so and were injured or almost injured). Students who write well and are older can write their stories and exchange them. Students who have never personally experienced a situation in which they were in imminent danger of being hurt can either describe situations in which fast thinking or action was required to avoid an unpleasant occurrence (e.g., ice cream falling off a cone, lamp falling to the floor), or they can describe situations they have seen on television or in the movies in which somebody was in imminent danger of being hurt.

Examples of dangerous situations students may have been involved in where quick thinking or action was necessary or highly desirable include falling out of a tree; driving a car or other motor vehicle;

losing control of or falling off a bicycle; falling down stairs; avoiding a falling object; coping with an injury to someone else; rescuing someone drowning; being carried out to sea by a fast current; being lost; being chased or threatened by a gang or mugger; being robbed; putting out a fire; rescuing someone from a fire; responding to a suicide attempt; stopping bleeding from a deep cut; and helping someone bit by an animal. After listening to each other's stories or reading each other's accounts, students discuss their experiences along the following lines:

1. Had the students received any prior warnings about how to behave should these emergency situations materialize?

2. Were they able to implement these suggestions when the emergency actually occurred?

3. If they had not received any prior emergency instructions, do they feel advance warning of what to do would have been helpful?

4. Did any students, without prior instructions about how to handle the emergency, respond correctly anyway?

5. Do students feel they would respond differently the next time a similar emergency occurred? the next time any emergency occurred? Why?

6. To what extent do people's reactions in an emergency depend on personality rather than learned behavior? For example, will some people always stay calm under pressure while others will always panic?

Students then identify sets of instructions they have been given at some time in their lives for how to react to emergencies, such as for fire drills; airplane emergency instructions; various automobile emergency instructions; getting a cramp while swimming; or coping with a snake bite, bee sting, tick, etc. Regarding several of these instructions, students discuss whether they feel the instructions would be helpful if the emergency actually occurred. Students also consider whether repeated instructions tend to help when a crisis occurs or whether people "tune out" after a certain number of repetitions.

The activity concludes with a discussion of the utility of instructions on what to do in an emergency, *particularly an emergency situation on a bus, subway, ferry, or train.* Discussion points can include

1. What are some of the things people should do in a subway, ferry, train or bus emergency?

2. Do people have to go through an emergency, perhaps several times, in order to be able to cope with one effectively? Do some emergencies require actual experience to handle properly while others can be dealt with effectively with prior instructions only?

3. Is there some advantage to being told in advance not only what to do in an emergency but how one can expect to react or feel during one (e.g., panic, inability to move--"freezing," etc.)?

4. Are there emergencies in which people have time to think ahead either to avoid the emergency or, once it has occurred, to prevent its becoming more severe or being prolonged?

Evaluation Method:

Students role-play scenarios in which they advise a friend on how to respond to typical public transportation emergencies.

Variations and Supplementary Activities:

Students can poll friends or neighbors on how they have reacted in emergency situations and whether advance warning of how to respond was of any value.

Students can create emergency situations for each other in which story completions describing a right and a wrong way to respond are written.

Students can read short stories, novels, and autobiographies dealing with emergency situations and discuss how people responded in each crisis. Appropriate titles for junior high students include

Novels

Pincher Martin, by William Golding (Harbrace: New York, 1956)
Lord of the Flies, by William Golding (Capricorn: New York, 1958)
Deliverance, by James Dickey (Dell: New York, 1970)
Airport, by Arthur Hailey (Bantam: New York, 1975)

Nonfiction

Alone, by Richard Byrd (Ace Books: New York, 1938)
Alive, by Piers Paul Reach (Avon: New York, 1975)

MINI-UNIT 5

LEARNING HOW TO PROMOTE USE OF PUBLIC TRANSPORTATION

This mini-unit involves students in identifying methods private citizens and government agencies can use to promote increased use of public transportation, carpooling, and more efficient use of the automobile. The unit also has students evaluate whether such promotional efforts are appropriate and, if so, who should engage in them.

The unit addresses the following concepts:

- It is often difficult to persuade other people to use public transportation and carpools.
- The Federal government is promoting increased use of public transportation in order to attain balance in the use of all transportation modes.
- Citizens need to decide whether local and state government should promote increased use of public transportation and why.

In communities in which there is no public transportation, students can conduct the activities in this mini-unit *as if* they lived in a town or city that *did* have several modes of public transportation available. It is important for students living in such communities to engage in this mini-unit because a general knowledge of public transportation is important to all citizens in a highly technological and mobile country such as ours. Moreover, students living in such communities may someday move to cities or towns where public transportation is available and need to consider whether and how to promote public transportation. Finally, Federal tax money is being spent on public transportation, and residents of communities in which there is no public transportation need to evaluate whether they feel this is a wise allocation of their particular tax dollars.

MINI-UNIT 5 LESSON PLAN

Learning how to promote use of public transportation

Activity #	*Activities*	*Class Time*
20	DESCRIPTION: Students discuss whether, when, and how to encourage other people to use public transportation and carpools. GOAL: To be familiar with and able to evaluate arguments for and against encouraging other people to use public transportation.	½-2 periods
21	DESCRIPTION: Students role-play and then discuss methods by which to persuade other people to use or increase their use of public transportation. GOAL: To be aware of methods by which people can be encouraged to use public transportation.	1 period
22	DESCRIPTION: The class discusses actions being taken by the Federal government to improve and promote public transportation in America. GOAL: To know what actions the Federal government is currently taking to promote public transportation.	½-1 period
23	DESCRIPTION: Students discuss ways to encourage increased use of public transportation and carpools in their community. GOAL: To be able to identify and evaluate methods for motivating the public to increase its use of public transportation.	1-2 periods

MINI-UNIT 5 LESSON PLAN (CONTD.)

Learning to promote use of public transportation

Activity #	*Activities*	*Class Time*
24	DESCRIPTION: Students plan "advertising campaigns" designed to promote public transportation and carpooling throughout the nation. GOAL: To be able to identify and evaluate methods by which to promote public transportation.	1-1½ periods

Total Class Time: 4-7½ periods.

ACTIVITY #20

Mini-unit Topic: Promoting Public Transportation

Approximate Class Time: ½-2 periods

Capsule Activity Description: Students discuss whether, when, and how to encourage other people to use public transportation and carpools.

Goal:

To be familiar with and able to evaluate arguments for and against encouraging other people to use public transportation.

Concepts Treated:

- Citizens need to determine for themselves whether, when, and how to encourage others to use public transportation.
- It is often diffi[illegible] to persuade other people to use public transporta[illegible]
- Some methods for persuading others to use public transportation are more effective than others.

ACTIVITY

Students write their response to the following scenario:

Margo is the 14-year-old daughter of Mrs. Whitney. The family lives in the suburbs, and Margo's mother works eight miles away in the city. Mrs. Whitney drives into town and back every day, rather than take the bus, and has to spend $3.50 to park her car. If she took the bus, she would have to walk three blocks, wait five to ten minutes for the bus, and pay 50¢ for the trip. Margo feels that's not so bad--she, herself, does it every weekend when she goes to the movies. Margo thinks her mother is contributing to air pollution, wasting gasoline, and ruining her nerves in the traffic. Besides, it costs only 50¢ by bus and takes only 15 minutes longer than by car.

Does Margo have the right to try to encourage her mother to take the bus? Why?

During the following class period, break the students into small groups and give them written instructions to read each other's papers and discuss and agree on the following:

1. *Should* people seek to encourage others to use public transportation and carpooling?
2. If so, *whom* should they seek to encourage (relatives? friends? neighbors? co-workers?) If not, why not?
3. If so, what *methods* would be most effective in motivating others to use public transportation and carpools? (e.g., setting an example? reasoning with people? refusing to travel by car with them?)
4. What *arguments* can be used to motivate others to use public transportation and carpools?
5. *What* might make it difficult to persuade other people to use public transportation and carpools?
6. Is it *possible* to motivate people to encourage others to use public transportation and carpools? How? or why not?

The groups report their conclusions to the class and respond to comments and questions from class and teacher. Class discussion follows on whether citizens who use public transportation have an obligation to encourage other citizens to engage in what they feel are socially productive behaviors, such as reducing their use of cars, using cars more efficiently, and increasing their use of public transportation. Class can also consider when people can reasonably be expected to use public transportation and carpools. For example, is it reasonable or appropriate to encourage people to use public transportation or carpools when little or no additional expense is involved? little additional travel time is required? some discomfort or loss of privacy is involved?

Evaluation Method:

Students use arguments for and against increased use of public transportation in role-played dialogues between proponents and opponents of increased use of public transportation (see following activity).

Variations and Supplementary Activities:

Students can develop the beginnings, middles, or endings to stories in which one person attempts to persuade another to use public transportation or carpooling and have other students complete them.

Students can develop their own scenarios in which one person objects to another's refusal to use public transportation or carpooling. Small groups can then discuss whether the objecting person has the right to encourage the public transportation (or carpool) nonuser to patronize public transportation more often (or join a carpool).

Each student can create a story ending of his or her own and exchange it with one other student who writes the beginning. Authors meet to compare their beginnings.

ACTIVITY #21

Mini-unit Topic: Promoting Public Transportation

Approximate Class Time: 1 period

Capsule Activity Description: Students role-play and then discuss methods by which to persuade other people to use or increase their use of public transportation.

Goal:

To be aware of methods by which people can be encouraged to use public transportation.

Concepts Treated:

- It is often difficult to persuade other people to use public transportation and carpools.
- Some methods for persuading other people to use public transportation and carpools are more effective than others.

ACTIVITY

Students role-play persons encouraging others to use public transportation and carpools (see sample role profiles at end of activity). After each role-play, participants read their role profiles to the class and discuss the feelings they had while role-playing--in particular, "neighbors," "friends," and "relatives" discuss their emotional reactions to being asked to increase their use of public transportation. They also discuss which approaches used by the other role players were most effective in motivating them to switch to public transportation and why. Nonparticipants discuss what they would have said had they been involved.

After completing the role plays, the class should be encouraged to write its own profiles and act them out.

Evaluation Method:

Students identify which methods used in their role-plays were most effective in the simulation and would be most effective in real life in encouraging other people to increase their use of public transportation.

Variations and Supplementary Activities:

Students can debate such topics as "Resolved, that people should be encouraged to make more efficient use of the automobile."

Additional role profiles can be developed in which the "public transportation supporter" advocates the formation and use of carpools.

Students can discuss whether people should be encouraged to make more efficient use of automobiles.

Sample Role Profiles

Bus

Public transportation supporter

You are the 14-year-old daughter of a mother who lives in the suburbs and works eight miles away in the city. You're upset with your mother because she drives all the way to town and back every day, rather than take the bus, and pays $3.50 to park her car. If she rode the bus, she would have to walk three blocks, wait five to ten minutes, and pay 50¢ (one way) for the ride, but that's not so bad--you do it every weekend when you go into town to the movies. You think your mother is contributing to air pollution, wasting gasoline, and ruining her nerves in the traffic. You've finally worked up the courage to confront her about it. You have just sat down to dinner. What do you say?

Public transportation nonuser

You live in the suburbs with your husband and two children, a 14-year-old daughter and a 17-year-old son. You drive to work in the city every day, even though it's an eight mile drive, because you dislike sitting in buses--when you can find a seat. Besides, you would have to walk three blocks to get to the bus and change buses on the way. You'd also have to stand in good and bad weather to wait for each bus; they run only once every 15 minutes during rush hour. You would rather pay the $3.50 to park your car every day than take the bus. Your daughter has made critical remarks to you once in a while about how you're wasting gasoline and how you come home complaining about the traffic. Now that you've just sat down to dinner, she looks as though she's going to bring up the issue again. If she does, what will you say?

Carpool

Carpool proponent

You have joined a carpool at work in an effort to save gasoline and money. Many of the other people in the factory have done the same thing. It's even turned out to be fun! You get to chat with your co-workers on the way in and back, so the drive is more interesting than it used to be. But the guy who works at the bench next to you is still coming to work in his car, all the way from Hillville, 22 miles away. This really concerns you, because you are doing your share to conserve gasoline and he's not. There are at least two other workers who could form a carpool with him, so you've decided not to keep your feelings to yourself. It's the morning coffee break and you have just approached him to suggest he join a carpool. What do you say?

Carpool opponent

You live in Hillville, a small town, and work about 20 miles away in a factory. You drive to work every day, even though many of your fellow workers use carpools. You drive your own car because you can't stand to wait for someone to come pick you up, to wait for people to get together before you can leave work, and to drive out of your way to pick up other people. Each trip would take about 15 minutes longer for you in a carpool. You'd also have to put up with the poor driving habits of some of your fellow workers. Anyway, as long as you pay for your gasoline, why should anyone care? But here comes that guy who works at the bench next to you who's always talking about his carpool. You wonder if he's going to say something about your not being in a carpool. He'd better not!

Train

Public transportation supporter

You, Connie Divellis, ride to work every day on the local commuter train. You find it's relaxing, inexpensive ($1.25 one way), and doesn't take too long. You used to drive the 40 miles to work every day, until you had to take the train because your car broke down one morning. When you realized it was so easy and enjoyable, you decided to keep on taking the train even after your car was fixed. It does take you an hour and a quarter to get to work by train, whereas it took only 50 minutes by car, but you are able to take advantage of the train ride to read the newspaper and relax. Your good friend at work, Otto Lopez, takes his car to work every day from about the same distance from another suburb. Sometimes when he gets to work he complains about the traffic, or the weather, or the problems he had starting his car. You think it would be a good idea both for him and for solving the pollution, energy, and traffic problems if he would come to work by train. It's now your lunch break and you think it's a good time to encourage him to stop taking his car to work and use the commuter train instead. You have just taken a bite out of the cream cheese and olive sandwich your husband packed you. After you swallow the first bite, you're ready to begin. What do you say?

Public transportation nonuser

You, Otto Lopez, commute to work every day by automobile. It takes you about 50 minutes, because you live 20 miles away from your job. Most of the time you like being able to drive, even if it does cost you $2.75 to park the car in a near-by parking lot. Sometimes driving is a hassle, however, for example in bad weather and when you nearly get into an accident. But you feel you have no other way to get to work. The commuter train is too expensive ($1.15 one way) and it would be a nuisance to have to wait for it every day. With your car, you can just hop in and get going. You're having lunch right now with your best friend at work, Connie Divellis. You know she takes the train to work every day, and sometimes you wonder if you shouldn't, too. But, you think, as you bite into a tunafish salad sandwich, it's so pleasant in your car to turn on the radio and take off down the freeway. Connie seems about to tell you something, and you wonder if it's about her traveling by train to work.

ACTIVITY #22

Mini-unit Topic: Promoting Public Transportation   Approximate Class Time: ½-1 period

Capsule Activity Description: The class discusses actions being taken by the Federal government to improve and promote public transportation in America.

Goal:

To know what actions the Federal government is currently taking to promote public transportation.

Concepts Treated:

- The Federal government is promoting increased use of public transportation in order to attain a balance in the use of all transportation modes.
- There are ways in which citizens can support the government's activity on behalf of public transportation.
- Citizens need to evaluate whether the government should be taking additional or different actions to promote increased use of public transportation.

ACTIVITY

In recent years the Federal government has assumed an increasingly important role in the development and maintenance of our nation's public transportation systems. In this activity, examine with your students the development of Federal assistance for public transportation and existing Federal programs and objectives.

Federal assistance for mass transportation began in 1961 with an emergency loan program and a small test and demonstration program. In 1964 the Urban Mass Transportation Act established a program of Federal matching grants for preservation, improvement, and expansion of public transportation systems. Amendments to this act have provided broader program goals, higher funding levels, longer periods of assured Federal assistance, and greater flexibility in meeting local needs. Funding increased from $50.7 million in 1965 to $133 million in 1970 to over $1.4 billion in 1976 for the purchase and construction of mass transportation facilities.

The Federal Aid Highway Act of 1973 granted flexibility in the use of highway funds for public transportation purposes by opening urban systems funds (previously solely for highways) to transit, both rail and bus; and by opening all highway funds to exclusive lanes for buses, traffic control devices, bus shelters, parking facilities, etc. In addition interstate highway funds also were made available for nonhighway public transportation purposes under certain conditions.

Federal Components*

The Urban Mass Transportation Administration (UMTA) of the U.S. Department of Transportation bears the principal Federal responsibility for providing assistance to public transportation. In addition UMTA cooperates extensively with the Federal Highway Administration (also of the Department of Transportation) in providing a coordinated Federal approach to public transportation programs. Both administrations also work cooperatively with the U.S. Department of Housing and Urban Development and the Department of Health, Education and Welfare.

Immediate Goals

The Federal government assists and promotes public transportation systems through programs of financial aid to local public bodies (such as municipal governments or a local transit authority) and through research, development, and demonstration grants. Specific goals include the following.

Mobility of Nondrivers. This objective is directed to identifying, studying and ultimately serving the transportation needs of the transportation disadvantaged--the young, aged, poor, handicapped, unemployed, and secondary workers. These groups include those who generally do not have reasonable access to alternative forms of transportation and are often deprived of mobility where public transportation is inadequate or nonexistent.

Relief of Traffic Congestion. This objective seeks improvement in overall traffic movement and travel time in urban regions especially during peak hours of travel demands.

Improving the Quality of Urban Environment. This objective requires achievement of land-use patterns and environmental conditions that effectively contribute to the physical, economic, and social well being of urban communities. Public transportation improvements--designed to help reduce the noise, odor, vibration, and other adverse impacts on the urban environment--are to be encouraged as a contribution to the improvement of the environment.

**External Operating Manual* of the Urban Mass Transportation Administration, 1972.

Examples of Federal Assistance

Many grants exist. For example, capital improvement and planning grants are awarded to local public bodies and provide 80 percent of the cost for new system equipment and modernization of transit facilities. Local bodies provide the remaining 20 percent of the cost. Operating assistance grants are awarded to local public bodies and provide up to 50 percent of the cost of operating a transit system. Research, development, and demonstration grants are provided to private and public organizations for studies, tests, and demonstrations of new ideas, methods, systems and equipment for improved transportation planning and operations. Technical studies grants are awarded to local public bodies and provide up to 100 percent (UMTA administrative policy dictates 80 percent) of the cost for engineering plans and designs of urban mass transportation systems, and for other planning studies. Managerial training grants are awarded to personnel employed in mangerial, technical, and professional positions in the urban mass transportation field for advanced training. University research and transportation grants are awarded to nonprofit educational institutions and combine comprehensive research and research training in urban transportation problems. Finally, rural highway public transportation program grants are available to public bodies to test possible methods of improving transportation services for rural residents.

The Grant Process

Each program of the Federal government has specific procedures and requirements for funding. Given below is an example of the grant process for UMTA capital grants.

Public bodies submit a preliminary application for purpose of ascertaining the probable eligibility of the applicant and project and the availability of Federal funds. If a positive decision is reached, then detailed engineering, planning, financial, and legal data must be set forth in a final application. Any application for capital grants must include a transcript of certification that a public hearing was held on the proposed project prior to submittal of the final application.

The preliminary application must include such items as list of capital facilities for which the grant is requested; a description of current system; benefit to be derived; estimates of the total cost; portion to be financed from local revenue and the source of such funds; and arrangements that exist or will be made to insure continuing public control over the operation or use of facilities. The application must indicate whether the project will adversely affect employees of the transit system or result in relocation of families or business and must include draft environmental analysis.

Priority for UMTA capital grants is given to funding proposals that reinvigorate public transportation in order to provide service that will attract new riders regardless of their social or economic group or the purpose of their journey; provide better general service and develop special services to provide for substantial groups of people who are totally dependent on public transportation; and promote transit as a positive force in influencing and supporting desired development patterns in urban areas and improving environmental conditions.

Future Federal Directions

Future programs will provide general fund financial assistance to help urban areas and improve the quality and quantity of public transit. They will encourage local urban planners to bear more of the burden of deciding which of the many competing programs they wish to promote given the limits of financial resources, and which they will defer. These are decisions that can best be made at the local level with Federal help in providing the data, guidelines and criteria needed to make prudent decisions. Attempts will be made to develop and encourage local areas to implement various incentive systems to force more efficient vehicular usage of our existing streets and highways, to continue to seek better mass transit technology, such as improved bus design, and to assist in efforts to form carpools.

After this general overview, give specific examples of programs the government has funded to achieve both its general objectives of providing safe, convenient, and fast public transportation services and also its specific goals described above. Examples of government activity are provided at the end of the activity. After the lecture, discuss with students the following issues:

1. How can citizens help the government to take effective actions to promote public transportation--for example, by attending hearings, by writing their opinions to the government, and by getting involved in regional transportation planning efforts?

2. Does it seem that the government's actions are effective? How can you tell? Are they appropriate? Why?

3. Are there other actions the government should be taking but isn't? If so, what are these actions? Why might the government not take these actions? What constraints may make it difficult for the government to take further action? Are there or have there been in the past pressures on the government not to allocate funds for public transportation?

Evaluation Method:

Students act as "government public information officers" and describe the government's efforts to promote public transportation to "the press" (the rest of the class).

Variations and Supplementary Activities:

Students can role-play a government information officer being interviewed on the government's actions to promote public transportation.

Students can research whether their transit authority has received assistance from the Federal, state, or local governments.

Federal Government Support of Mass Transit In Recent Years*

Community Improvements

In recent years, funds have been appropriated to communities for improvements in and purchases of public transportation facilities and vehicles. For example, the County of Hawaii received $474,852 to assist in the purchase of ten new passenger buses, bus signs, and related equipment. A grant of $107 million went for transit improvements in the Chicago, Illinois metropolitan area, including $75 million to the Chicago Transit Authority for extensive renovation, installation of service and maintenance equipment, and the purchase of 600 new buses; $12 million to the West Suburban Mass Transit District for the purchase of 20 new double-deck rail commuter cars, four locomotives, spare parts, and related items; $11 million to the Illinois Department of Transportation to assist in the purchase of land and construction of commuter rail passenger automobile parking facilities in 19 suburban communities. The grant also includes relocation payments for persons and businesses that are displaced by the construction. A grant of $800 million to the Metropolitan Atlanta Rapid Transit Authority (MARTA) to assist in the construction of its rapid transit system represented the most significant single Federal transit commitment ever made to any urban area in the nation. Other grants included $2,870,068 to the Delaware Authority for Regional Transit (DART), Wilmington, Delaware for the purchase of 48 new passenger buses, nine service and maintenance vehicles, 113 two-way radios, 48 fareboxes, 43 bus stop shelters, 2000 bus stop signs, and environmental improvement equipment and grants worth $20,800,000 to 47 states for direct transit assistance to elderly and handicapped persons, with which a total of 2283 vehicles are being purchased to aid the mobility of elderly and handicapped persons.

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*Contact the Urban Mass Transportation Administration, U.S. Department of Transportation, Washington, D.C. 20590, for list of most recent grants awarded for public transportation.

Demonstration Projects

Funds also go for demonstration projects in various communities which seek to indicate the success of different public transportation innovations, such as projects designed to test accessibility of public transportation for the handicapped and the elderly, or new marketing and management techniques. A grant of $495,500, for example, when to Lower Naugatuck Valley of Connecticut for a system including limited fixed route service, flexible route demand-responsive service, contract bus service for social service agencies, and an automated collection system using credit cards and monthly billings. Grants of $415,984 to New York Metropolitan Transit Authority and $334,375 to Southern California Rapid Transit District allowed an examination of the feasibility of double-deck buses in regular transit routes and a study of public acceptance of the buses.

Industry and Research

Funds for industry and research institutions aid research and development of new or improved public transportation vehicles and facilities. For example, a contract of $8 million was awarded for the construction of an experimental prototype of a two-car advanced concept train (ACT-1) to be powered by a revolutionary energy-storage flywheel propulsion system to utilize electric power more efficiently. The operational data collection system is being developed, the objective of which is an integrated set of equipment that will automatically measure and record bus passenger activity, revenues collected, and miles driven and relate this activity to time points on a line or route; thereby improving on present techniques of collecting and handling the operation information essential for management, concerning a day's activity on a bus. By July, 1975, two "off-the-shelf" and three development automatic passenger counters, a registering farebox, an electronic odometer, and an on-board cassette recorder will have been tested, the counters in revenue service also being developed in the intermodal automatic fare collection system. The objective is to develop a fare collection device for buses that can accept magnetic cards utilized by rapid rail transit systems, which will improve passenger convenience and the collection of data concerning total system revenues and passenger activity. If the tests are successful, specification will be written and action taken to procure two engineering prototypes of the integrated system in 1976. Successful testing of the prototypes would be followed by production and demonstration in 1977. Yet another experiment is the transit security system demonstration. Its object is to install, demonstrate, and evaluate the effectiveness of security devices and techniques at selected rail transit stations on the Chicago Transit Authority System. Such devices include closed circuit TV monitoring, public address system, emergency telephones and alarms, and ticket agency alarms and intercoms.

Other Research

Funds go also to communities and educational institutions for research and for training managerial, technical, and professional personnel in urban mass transportation field. For example, a grant of $150,000 was awarded to the Massachusetts Institute of Technology to provide research on control procedures for Dial-A-Ride, a bus system in which people phone the bus company requesting the bus stop at their home.

Promotion

Promotion of the use of public transportation through a comprehensive marketing and education plan is also encouraged. The transit marketing program demonstration seeks to support the community plans and service development as an integral part of the transit marketing project begun in FY 1974. The transit marketing project is designed to develop a basic transit marketing methodology and demonstrate its validity. The market research phase of the project was completed in July 1975. Transit service planning, service modifications, communication and user information in each of the test cities, Baltimore and Nashville, will be funded by this program. Results of the marketing project are intended for nationwide dissemination.

The transit user information project seeks to demonstrate the application of a comprehensive series of activities for conveying information about transit services to the public. It is specifically intended to demonstrate the effectiveness of dissemination techniques and tools currently being developed. Market research indicated a significant need to facilitate access to transit information for current and potential transit users. This need reflects the increasing complexity of transit schedules and routes, the use of a variety of fare structures and the general unfamiliarity of nonusers and new riders with transit systems. In this context, effective information dissemination is critical to wider public utilization of mass transportation.

The transit industry marketing handbook projects is creating a marketing manual for transit managers. The manual will include substantial new transit marketing information and techniques resulting from considerable advances in the state of transit marketing and, equally significant, changes in the marketplace. The manual is being developed in response to the industry's need for a basic source of information for transit marketing, a basic element of improving system productivity and efficiency. This guide brings together, in a single convenient source, all the major information relating to transit marketing. Timely revisions will assure continued relevance of this manual to the transit manager.

The MBTA prepaid pass evaluation is a study enabling the Massachusetts Bay Transit Authority (MBTA) to evaluate the concept of a prepaid transit pass program designed to promote the increased use of transit by allowing employees to buy monthly travel passes through convenient payroll deduction. Employers participating in the program include the John Hancock Mutual Life Insurance Company, the City of Boston, the Commonwealth of Massachusetts and the U.S. Department of Transportation's Transportation Systems Center.

Finally there is transit marketing training and education. This has several levels: (1) A two-day seminar for general managers, transit board chairmen, and other appropriate high-level decision makers for transit systems in SMSAs of over 200,000 population, held June 9-10, 1975, gave a comprehensive, working knowledge of marketing. (2) A 2½-day workshop for transit marketing personnel, held June 18-19-20, 1975, afforded an opportunity to improve understanding, knowledge, and ability to use marketing techniques and tools. (3) A university course on transit marketing. Both a basic course for teaching transit marketing at colleges will be developed, along with appropriate support materials, to be distributed to appropriate educational institutions for inclusion in existing or contemplated transportation courses, and UMTA will also assist a major university in establishing an annual two-week marketing training seminar for novice transit marketing personnel.

ACTIVITY #23

Mini-unit Topic: Promoting Public Transportation

Approximate Class Time: 1-2 periods

Capsule Activity Description: Students discuss ways to encourage increased use of public transportation and carpooling in their community.

Goal:

To be able to identify and evaluate methods for motivating the public to increase its use of public transportation.

Concepts Treated:

- Citizens need to decide whether local and state government should promote increased use of public transportation and why.
- There are many potentially effective methods that local and state governments could use to motivate the public to increase its use of public transportation and achieve a balanced transportation system.
- Careful consideration needs to be given to which government measures would be most effective in increasing the public's use of public transportation in a given community.

ACTIVITY

Before discussing ways to encourage people to increase their use of public transportation, students can engage in the following preliminary activity:

> Students stand at one or more selected streetcorners for one hour during rush hour and count the number of cars that go by and number of persons in each car. Brief follow-up discussion can be held on the advantages and disadvantages of this mode of commuting.

Then break the class into small groups. Each group picks a different public transportation mode, including carpooling as one mode,* and analyzes ways in which the public can be motivated to increase their use of it through changes to improve the public transportation service; a public education or promotional campaign; and deterrents to excessive use of the automobile. For example, the group discussing increased use of buses might conclude that reduced fares and increased service are changes which would lead to increased use; that a publicity campaign fostered by the mayor (governor, town council, etc.) would increase use; and that restricting downtown parking between the hours of 7 a.m. and 9 a.m. would discourage commuters from using automobiles to commute to work and encourage use of buses.

After fully discussing their recommendation, groups present them to the class and compare conclusions. Follow-up discussion can be held on

- Why public transportation or carpooling should (or should not) be encouraged.
- Additional methods by which public transportation use and carpooling be promoted in the community.
- Whether the government should actively promote increased use of public transportation by improving public transportation service, advertising the benefits of public transportation and carpooling, or legislating disincentives to the excessive use of automobiles.
- What effects increased use of different modes of public transportation might have on the economy in terms of decreased need for automobiles and increased need for public transportation vehicles and facilities.
- What short- and long-run effects an increase in the use of public transportation might have on the latter's ability to accommodate increased patronage and whether increased patronage would require immediate appropriations to finance expansion of services.
- Whether it is possible to improve only one or two aspects of a public transportation mode and expect ridership to increase or whether the entire system must be improved. For example, which of the following improvements must be instituted in order to produce a significant increase in bus ridership: (1) safety against vandalism and mugging; (2) cleanliness; (3) speed; (4) frequency of service; (5) comfort--air conditioned, etc.; (6) reasonable fares; (7) first-rate management; (8) regulated automobile traffic flow (to enable buses to travel faster); and (9) route expansion.

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*If the community has only one mode of public transportation, all groups discuss that one mode. In communities where no public transportation is available, students might discuss the steps necessary to promote a public transportation system if one were instituted.

Evaluation Method:

Students discuss one of the debate topics provided in the Variations section below.

Variations and Supplementary Activities:

Students can interview officials from different public transportation modes on what actions they have taken or would like to take to promote increased use of their mode.

Students can interview officials of various state and local government agencies to learn what steps, if any, have been taken to discourage the public from excessive use of automobiles. If no such steps have been taken, students can ask why not. Agencies whose officials can be interviewed include environmental protection agencies, transportation agencies, and highway construction agencies.

Students can discuss ways to reduce vandalism of mass transit facilities and vehicles and how this might increase use of public transportation.

ACTIVITY #24

Mini-unit Topic: Promoting Public Transportation

Approximate Class Time: 1-1½ periods

Capsule Activity Description: Students plan "advertising campaigns" designed to promote public transportation and carpooling throughout the nation.

Goal:

To be able to identify and evaluate methods by which to promote public transportation.

Concepts Treated:

- It is often difficult to persuade other people to use public transportation and carpools.
- Some methods for persuading others to use public transportation and carpools are more effective than others.
- The goal in promoting public transportation is to attain a balance in the use of all transportation modes.

ACTIVITY

Break the class into groups. Each group acts as an "advertising agency" for a mode of public transportation of its own choosing, including carpooling. They have been hired by these various modes, or by the government in the case of carpooling, to increase ridership by making the public more aware of public transportation and what it has to offer in the way of comfort, safety, cost, and convenience. If there is no public transportation in the local community, each group can design its advertisements to promote public sentiment in favor of *installing* its particular mode of public transportation, including carpooling.

The groups have been contracted to produce the following:

1. A slogan (e.g., Buses are Beautiful, Subways are for Swiftness, Call a Cab/Take a Taxi)
2. A television commercial
3. A newspaper advertisement

4. Posters and/or brochures

5. A gimmick to increase ridership (e.g., free buttons promoting ridership, door prizes, free rides)

When the projects have been completed, the groups present their commercials and display their slogans and materials. Students explain their reasons for choosing the points they stressed in the advertising. For example,

- Why was safety stressed in your newspaper advertisement, and why were convenience and comfort the focus of your television commercial?
- Why do you think the gimmick you chose to increase ridership would be effective and appeal to commuters?
- Did you document how increased use of your mode would lead to a more balanced transportation system in the community?

After the presentations, each student casts a ballot for the best advertising in each of the following categories:

1. Best television commercial
2. Most clever gimmick
3. Most eye-catching slogans, posters, and newspaper advertisement
4. Best overall advertising effort

Evaluation Method:

Students evaluate the strengths and weaknesses in each other's advertising campaigns, justifying their assessments.

Variations and Supplementary Activities:

The groups can make their presentations to another class.

Students can contact various community public transportation facilities to assess interest in their advertising project and enlist their support for a school and community publicity drive.

Students can gear their advertising campaigns toward the reduction of vandalism against public transportation vehicles.

MINI-UNIT 6

LEARNING TO SEEK REDRESS OF GRIEVANCES OVER PUBLIC TRANSPORTATION SERVICE

This unit is designed to help students develop two particularly significant consumer skills--the ability to determine when it is appropriate to complain about poor public transportation service and the ability to register appropriate and effective complaints. The unit also enables students to understand why operators of public transportation vehicles may have difficulty providing the level of service the public desires.

In addition, the unit promotes the development of positive attitude toward redress of grievances--specifically, the attitude that there are both appropriate and inappropriate times and ways to complain about poor service.

For balance, the unit contains an activity devoted to vandalism against public transportation vehicles and facilities--a common grievance transportation operators and officials have against the public. By engaging in this final activity, students can place their expectations that public transportation provide good service in the context of their own responsibility not to abuse the service that is provided.

The major concept addressed in this unit is that

- Citizens are more likely to secure redress of grievances if they identify methods for doing so which they can predict will be successful.

The skills and attitudes students learn in this unit are readily transferable to other consumer problems--ranging from poor performance of products purchased to lack of needed community services.

Even in communities in which there is no public transportation, the activities in this unit are valuable, given this transferability of skills to other consumer problems. Furthermore, youngsters in these communities may someday move to cities or towns where public transportation is available, and these youths will need to know how to secure redress of grievances when they use those services.

MINI-UNIT 6 LESSON PLAN

Learning to seek redress of grievances over public transportation service

Activity #	*Activities*	*Class Time*
25	DESCRIPTION: Students discuss seeking redress of grievances against unsatisfactory public transportation service. GOAL: To know when and how to register complaints against unsatisfactory public transportation service.	½-1 period
26[a]	DESCRIPTION: Students role-play scenarios involving operators and users of public transportation vehicles. GOALS: To be able to register complaints for unsatisfactory public transportation service and be aware of the constraints providers of such services may have in meeting those complaints.	1 period
27[b] Spirit Master #2	DESCRIPTION: Students practice writing letters of complaint about consumer grievances regarding unsatisfactory public transportation service. GOAL: To be able to register complaints for unsatisfactory public transportation service.	1 period
28[b]	DESCRIPTION: Students role-play and then discuss situation involving vandalism against public transportation vehicles. GOAL: To understand the problems caused by vandalism against public transportation vehicles.	½-1 period

Total Class Time: 3-4 periods.

[a] This activity also appears in Mini-unit 2.

[b] This activity also appears in Mini-unit 1.

ACTIVITY #25

Mini-unit Topic: Seeking Redress of Grievances

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss seeking redress of grievances against unsatisfactory public transportation service.

Goal:

To know when and how to register complaints against unsatisfactory public transportation service.

Concepts Treated:

- Unsafe, inefficient, or unclean public transportation service may warrant complaints by the public.
- Consumers need to decide for themselves which inadequacies in public transportation service warrant seeking redress of grievances.
- Consumers are more likely to secure redress of grievances if they identify complaint methods that are likely to be successful.
- Complaints to public transit authorities should be of sufficient detail to permit proper investigation by transit authorities.
- Public transportation officials may not be able to redress all consumer grievances.

ACTIVITY

Students discuss seeking redress of grievances over a variety of dissatisfactions with public transportation services. They can approach the topic of redress from four different but related perspectives:

1. Over what *issues* should consumers seek redress of grievances?

2. What should and could their *goals* be in seeking redress?

3. What *methods* would be effective for seeking redress?

4. What *constraints* may be operating that may make it difficult or impossible to seek or obtain redress?

Students in small groups can discuss one or more of these issues, preferably in the order in which they are listed above, since that is the thought process through which a public transportation user should progress in order to successfully register a complaint. Each of these issues is discussed in more detail below. (In communities that have no public transportation, students who have traveled to other communities and used their public transportation systems can discuss any dissatisfaction they may have had.)

Students can be asked to decide (in their groups) what would have to happen to them in using public transportation that would make them feel they had a *right* to complain. Students should be encouraged to be specific in their "complaints" (for example, the bus number, route, and time of day). Examples might be frequent tardiness in departure or arrival times, sloppy, dirty or unsanitary conditions (such as dirty windows, dirt on floors of vehicles or stations, and food on seats); failure to supply adequate services or supplies (such as lack of toilet paper and other bathroom supplies; too few cars on a train or buses on a route resulting in crowding on available cars or buses or having to wait for the next train or bus); equipment inoperative or difficult to operate (such as windows that are broken, do not open, or open with difficulty); uncomfortable conditions (such as ripped, broken down, or loose seats, inadequate heating or air conditioning, crowding, and poor lighting); safety hazards such as dangerous driving practices, including tailgating, speeding, weaving in and out of traffic, running red lights, not stopping for railroad tracks (if required by law); faulty equipment, including seats not properly fastened; inoperative or poorly operating windshield wipers; not coming to a complete stop when allowing passengers to board or disembark; and attacks by pickpockets or robbers ; and unpleasant operator attitudes and behaviors (such as anger, discourtesy, or insulting language and irresponsibility in terms of starting the trip on time, making unauthorized stops or detours along the route, or smoking in violation of vehicle rules). Having specifically identified examples of grievances for which they feel a passenger complaint would be justified, groups can generalize about what the nature of the grievance must be before a complaint is justified. For example, do all grievances about safety justify a complaint? Do grievances justify complaints only when several passengers are bothered? Groups report their justifiable grievances to the class and discuss the general reasons for which it is appropriate to register a complaint.

Groups then discuss what *remedies* they would want to seek for each of (or several of) the grievances they felt warrant complaints. For example, if one of their grievances is that a bus does not carry a first-aid kit, their goal may simply be to have one provided. However, if the grievance is that a driver operates a vehicle unsafely, there are a number of goals a citizen could seek to achieve in registering a complaint, such as enforcing safe driving practices, having the driver reprimanded, or having other disciplinary action taken by the bus company.

Students can next identify the *methods* by which passengers can secure redress of grievances. The methods selected will vary with the nature of complaint and the goals sought in rederssing the grievance.

There are two steps in obtaining redress of grievances. The first is to *identify who has the ability and the authority to redress the grievance*--that is, who is in a position to make the desired change or require someone else to make the desired change. Possible people include vehicle operators, crew maintenance persons for vehicles and facilities, administrators of public transportation services at headquarters, regulatory agencies (including police, public health, and safety boards), government agencies involved with health, safety, and transportation, and elected officials.

The next step is to decide *what methods will effectively accomplish redress*. Methods for obtaining redress of grievances include complaining in person; complaining by telephone or in a letter (sent return-receipt requested); phoning, writing to, or meeting with appropriate consumer protection organizations, business associations, legal groups, and governmental agencies; circulating petitions and forwarding them to one or more of the above groups or to the appropriate transportation authority; asking local media to publicize complaints in letters to the editors, articles, phone calls to talk shows, etc.; and taking part in demonstrations (such as sit-ins, rallies, and picketing).

Finally, students identify the *constraints* that may make it difficult to seek or secure redress of grievances.

Evaluation Method:

Students role-play dialogues in which "public transportation patrons" complain to "transit authority officials" about poor service.

Variations and Supplementary Activities:

Students in small groups can select an actual grievance against a local public transportation service, discuss the best methods for seeking redress, and if motivated, seek to have the grievance redressed.

Students can identify possible grievances nonpassengers may have against public transportation (such as excessive noise, air pollution, dangerous driving practices, and traffic congestion), discuss whether their grievances justify complaining, and if so, decide to whom to complain and how.

Students can invite a public transportation official to class to discuss grievances the public may have against public transportation service, whether these complaints are justified, and if so, what, if anything, is being done about them.

Students can investigate the complaints mass transit vehicle operators have against the public, including vandalism, rudeness, and unsafe behavior.

ACTIVITY #26*

Mini-unit Topic: Seeking Redress of Grievances

Approximate Class Time: 1 period

Capsule Activity Description: Students role-play scenarios involving operators and users of public transportation vehicles.*

Goal:

To be able to register complaints for unsatisfactory public transportation service and be aware of the constraints providers of such services may have in meeting those complaints.

Concepts Treated:

- Unsafe, inefficient, or unclean public transportation service may warrant complaints by the public.
- Public transportation employees may not be able to redress all consumer grievances.

ACTIVITY

Students role-play operators of public transportation services and passengers in everyday situations. A sample set of role profiles appears at the end of the activity. Students in communities that have no public transportation (as well as students whose towns do) can role-play the second set of role profiles, which focus on a carpooling dispute.

Choose students for each part and then proceed with the role-play using one of the following two approaches:

1. Send the students from the room or out of hearing. Read the profiles to the class and, if desired, briefly discuss the situation. Call the students back into the room. Each one then reads his or her role profile to him- or herself.

2. Have the students chosen for the role-play read their profiles silently to themselves, act the situation out, and then read them to the class.

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*This activity also appears in Mini-unit 2.

(The option you choose will, to some extent, determine the direction your discussion takes.) After using the role-play provided, have students develop additional role profiles and act them out.

After each role-play, participants discuss the feelings they had while role-playing. For example, the operators of the vehicles relate how they felt while in that particular situation. The passengers relate their feelings about the same situation. Nonparticipants discuss the pros and cons of each occupation role-played and the public's expectations of the people who hold these jobs. List on the chalkboard the skills and personality traits, as seen by the students, necessary for each job. Another list is drawn up of ways in which passengers and other motorists can aid operators of public transportation vehicles and, by so doing, help themselves.

Evaluation Method:

Students identify which arguments and techniques used in their role plays would be most effective in real life and explain why.

Variations and Supplementary Activities:

Students can invite someone from the personnel office of a public transportation mode to class to explain what skills and characteristics they look for in their employees and how the public can help improve service and make the system more responsive to its demands.

Students can develop the ideal public transportation employee and ideal passenger.

Students can write their own role profiles and act them out.

Sample Role Profiles

Bus

Bus Driver

This is the first run of the day and already you are behind schedule. A heavy rain is making traffic very slow, you frustrated, and your passengers angry because you are late and they are wet. You try to do your best to stay on schedule and get people where they are going on time, but it's not always easy. Anyway, what can you do to improve the weather or the traffic? It's days like today that make you wish you had never learned to drive. Just now you are coming to a bus stop where someone is waiting in the rain to get on.

Passenger

This rain *has* to stop. This is the second time this week that it has poured, which means this will be the second time in a week you will be late for work and arrive soaking wet as well. You can't understand why it always takes longer for the bus to get places when it rains--you think service should be better on those days. And the shelter at the bus stop is too small for all the people who wait there. Again, today, you are standing out in the rain with no umbrella, getting very wet. And, when the bus does get here all the seats will be taken. You are getting madder and madder with each passing minute. If and when that bus gets here, you are going to give the driver a piece of your mind.

Carpool

Carpool passenger

You are a member of a carpool that has two other members in addition to yourself. You all use the carpool for commuting from home to work and back each day. However, although all three of you work at the same place, your job starts 30 minutes before your friends' starting time, and you get through with work 30 minutes before they do.

Since you have a different schedule, you would like the carpool driver to pick you and the other passenger up a half hour earlier so you can get to work when your job begins. Otherwise, you have to work during your lunch break to make up for getting to work 30 minutes late. You would also like to leave 30 minutes early at the end of the day so you can get home that much sooner and relax. You've decided to ask the driver if he will change his schedule for you. You feel that since you contribute the same $10 a month for gas and oil as the other passenger, the driver should make the change.

You have just telephoned the driver. What do you say?

Carpool driver

You drive yourself and two other workers to work and home every day as a carpool, since you all work at the same place. Each of the two passengers gives you $10 a month to help pay for gas and oil.

However, you know that one of the passengers starts work and gets through with work 30 minutes earlier than the other passenger. You've been worried that he might ask you to pick him up earlier and take him home earlier. Since you own and drive the car, you could decide when to pick people up and take them home. And you really need the $10 each passenger gives you each month for gas and oil. The problem is, you need to let your children off at school before you pick up your two friends and you may not have time to do that if you have to pick up the "early" worker 30 minutes earlier each day.

The "early" worker has just telephoned you. You wonder if he is going to ask you to pick him up earlier. What will you say if he does?

ACTIVITY #27*

Mini-unit Topic: Seeking Redress of Grievances

Approximate Class Time: 1 period

Capsule Activity Description: Students practice writing letters of complaint about consumer grievances regarding unsatisfactory public transportation service.*

Goal:

To be able to register complaints for unsatisfactory public transportation service.

Concepts Treated:

- Unsafe, inefficient, or unclean public transportation service may warrant complaints by the public.
- Citizens are more likely to secure redress of grievances if they identify methods for doing so that are likely to be effective.

ACTIVITY

Students read the role profile in Activity #26 and write letters seeking redress of grievances. Each student or small group of students decides whom they should write to and what should be included in the letter. A list of potential recipients is provided later in the activity. A sample letter is available on the top half of Spirit Master #2. Follow-up discussion can focus on how useful letter writing is; to whom the letters should be addressed; whether letters are most effective if they are angry, factual, threatening, apologetic, etc.; and what information should be included (such as writer's name and address, name and license number of driver and vehicle, description of complaint, time and location of offensive or dangerous behavior, and indication that copies of the letter are being sent to other people or agencies).

After this discussion, students write letters of *response* to the consumer complaint letters and discuss the legitimacy of the passenger's complaint, identify any constraints that may make it difficult for the transportation authority to comply with the consumer's demand for redress, and indicate what action if any the authority will take or has taken to meet the consumer's concerns. A sample letter from an agency responding to a consumer complaint is provided on the bottom half of Spirit Master #2.

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*This activity also appears in Mini-unit 1.

The following are sample agencies, individuals, and groups students can write to seeking redress of certain kinds of grievances.

- Local transit authority for fares, schedules, routing, condition of buses, unsafe driver behavior, and lost items
- Local officials for scheduling, routing, fares, condition of buses, and funding
- Consumer groups and Better Business Bureaus for scheduling, routing, fares, and condition of buses
- Newspaper action lines to give wider circulation and in regard to public transportation problems
- U.S. Congress for funding and lack of adequate public transportation services
- Urban Mass Transportation Administration (UMTA), U.S. Department of Transportation, for funding information and safety defects in public transportation equipment
- National Highway Traffic Safety Administration (NHTSA), U.S. Department of Transportation, for reporting safety defects on automobiles and buses

Evaluation Method:

Students role-play telephone calls between consumers complaining about public transportation service and public transportation officials responsible for handling consumer complaints.

Variations and Supplementary Activities:

Students can role-play telephoning their complaints to one or more sources of redress, while other students role-play the party receiving the call.

Students can write letters complaining about inadequate service and other conditions that can be corrected only with additional funding and by overcoming political constraints. Other students can respond to these letters explaining how economic and political constraints make it difficult to provide the service the letter writer requests.

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Students can visit the maintenance shop of a local public transportation agency for a tour which includes a discussion of how maintenance problems can affect the quality of public transportation service. (Many local bus agencies, for example, regularly provide such tours.)

Students can write letters to bus companies *complimenting* them for particularly good service or especially considerate bus drivers.

ACTIVITY #28*

Mini-unit Topic: Seeking Redress of Grievances

Approximate Class Time: ½-1 period

Capsule Activity Description: Students role-play and then discuss situation involving vandalism against public transportation vehicles.*

Goal:

To understand the problems caused by vandalism against public transportation vehicles.

Concepts Treated:

- Complaints against public transportation service must be seen in the context of abuse against transit vehicles by some citizens.
- Vandalism against public transportation vehicles reduces the level of public transportation service for all citizens who use it.
- Vandalism increases the operating costs of public transportation systems.

ACTIVITY

Two or more students role-play the scenario described in the role profiles at the end of the activity. (You may want to revise them first to reflect more closely actual conditions in the community.) Following the role-play, break the class into small groups to discuss one or more of the following issues:

1. What kinds of vandalism take place against public transportation vehicles (e.g., breaking windows, slashing seats, writing graffiti, stealing bus signs)?
2. What other kinds of activities do some people engage in that are destructive of the public transportation system (e.g., harassing passengers, harassing operators, yelling, swearing, fooling around, littering, fighting)?

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* This activity also appears in Mini-unit 1.

3. Who tends to engage in these activities (e.g., boys or girls, teenagers, adults)?

4. On what occasions and why do these people do this (e.g., after sports events, when kids are in a group, after drinking too much alcohol; to let off steam, to gain approval from friends, peer pressure, to satisfy sadistic urges, to rebel against authority, to express frustration at economic or social conditions)?

5. What effects do vandalism and other inappropriate public transportation behavior have on safety (distracting the driver, making a vehicle unsafe to use or drive, removing or defacing traffic signs)? comfort? accessibility? costs of public transportation?

6. How can vandalism be prevented or reduced?

Small groups report their conclusions to the class and general discussion focuses on methods by which people can be encouraged to use public transportation appropriately and deterred from using it inappropriately. Examples of methods might be provision of additional security measures, such as guards; discontinuation of service in areas where vandalism is uncontrollable; refusal to allow persons found guilty in court of having abused the system from using it in the future for a specified period of time; cancellation of events that seem to precede instances of vandalism (e.g., athletic events, rock music performances); stringent control over access to alcohol at such events; and educational campaigns in schools and the media describing the self-destructiveness of vandalism. These methods must be considered in terms of how effectively they could be enforced and whether they would lead to the abuse of civil liberties.

Evaluation Method:

Students write a flyer or poster to be placed in the school library or office explaining why vandalism of public transportation vehicles should not be committed.

Variations and Supplementary Activities:

Students can interview or invite to class officials and operators of the public transportation system.

Students can interview public transportation authorities on the expenses necessitated by vandalism and report what they learn to the class.

Students in small groups can develop another set of role profiles around another vandalism issue and each group can then role-play one other group's exercise.

Sample Role Profiles

School principal

Last night your school lost its semifinal game in the state school basketball tournament. A lot of the kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you cannot afford to let it happen again. However, athletics are a big thing in your community, so you have to be careful that what you do doesn't damage the athletic program too much. And if you expel the students who were arrested, you'll have to deal with all their parents--and possibly some angry people on the School Committee.

The meeting with the police chief, gym director, the student council president, a basketball player on the team, and the transit authority has just begun. What do you say should be done?

Transit authority official

Last night the school basketball team lost its semifinal game in the state school basketball tournament. A lot of kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, you and the police chief have called a meeting this morning with the school principal, student council president, and gym director to discuss what should be done with five students who were arrested and to prevent a similar occurrence from happening again. In fact, this is the second year in a row this has happened, and you're determined it will not happen again. The town budget manager has threatened to reduce the amount of funding available for the bus system if it happens again. He argues, "Why should the citizens have to pay for repairing the buses and for providing bus service when these kids make it impossible for us to use buses safely and comfortably?" However, the bus system makes a lot of money from students who are passengers, so you don't want to lose their patronage, either. You feel if the police assigned an officer to every bus during events like this, the problem might be solved.

The meeting with the police chief, the gym director, the student council president, a basketball player on the team, and the school principal has just begun. What do you say should be done?

Student council president

Last night your school lost its semifinal game in the state school basketball tournament. A lot of kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded the buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you cannot afford to let it happen again. If it does, you are afraid the school will cancel tournament participation by your school entirely or else not let any students attend the play-offs. If this happened, you probably wouldn't be reelected student council president since your opponents would claim it was your fault these things happened. Besides, you don't think it's fair to punish the vast majority of students for the behavior of a few.

The meeting with the police chief, the school principal, the gym director, one of the basketball players, and the transit authority official has just begun. What do you say should be done?

Basketball player

You are a sophomore guard on the school basketball team. Last night your school team lost its semifinal game in the state tournament. A lot of the kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this happened, and you cannot afford to let it happen again. You desperately need a scholarship to go to college, and if you cannot play basketball--especially on a championship team--you may not be able to get one. Therefore, you think the students who were caught should be severely punished to set an example, and the gym director should make sure that kids don't bring beer into the gym. However, you feel you can't say these things too forcefully in front of the student council president, because he'll go around telling the other students that you wouldn't stand up for the kids and are thinking only of your scholarship.

The meeting with the police chief, gym director, student council president, transit authority offical, and school principal has just begun. What do you say should be done?

Gym director

Last night, two state school basketball teams played their semifinal game in your gymnasium. Some of the kids from the team that lost had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you cannot let it happen again. If it does, you are afraid you may lose your job, since it might be seen as your fault that the kids were able to bring beer into the gym. However, it's just about impossible for you to prevent this, since you can't frisk every student that comes into the gym nor can you keep an eye on them all during the games. Some of the kids even manage to hide their alcohol in the locker rooms and drink it there during half-time, when there are so many people milling around nobody can see what's going on. Therefore, you feel the solution is to have the school principal expel these students from the school as a lesson to other students.

The meeting with the police chief, student council president, basketball player, transit authority official, and school principal has just begun. What do you say should be done?

Police chief

Last night the home town school lost its semifinal game in the state school basketball tournament. A lot of kids from the school had gone to the game, and some of them had smuggled beer into the gym or had been drinking before the game. When the game ended, some of these students went around breaking windows on buses while others who had already boarded buses harassed passengers, got into fights, and in general gave the passengers and drivers a very hard time. As a result, the police department and public transportation authority have called a meeting for this morning to discuss what to do with five students who were arrested and how to prevent a similar occurrence in the future. In fact, this is the second year in a row this has happened, and you want to prevent it from happening again. The town council has been accusing you and your staff of not doing your job to protect the community from kids making trouble for its citizens. The transit authority says you don't provide them with enough protection. The problem is, you feel it's the parents' responsibility to take care of these kids, not yours. Sure, you can throw the book at them and recommend they be sent to reform school or to jail, but there will be other kids next year who'll do the same thing all over again. Besides, once kids get drunk, there's nothing you can do to stop them from doing damage. Either the games should be canceled, there should be no audience, or the gym director should see to it that no beer is brought into the gym. However, you don't want to be responsible for getting the kids really angry. You've set up a community relations program with the town's teenagers, and if you come down hard on the basketball program or the students in the school you're liable to ruin all the good work you've done so far to improve police-teenage relations. Moreover, you don't have enough officers to patrol every bus, even if you wanted to.

The meeting with the gym director, a basketball player on the team, the student council president, the school principal, and the transit authority has just begun. What do you say should be done?

MINI-UNIT 7

RESEARCHING PUBLIC TRANSPORTATION ISSUES

This final mini-unit consists of eight research activities. Individual students can pursue those activities that interest them, or the class can be divided into small groups with each group pursuing a different research activity. Finally, the activities can also be used as extra-credit assignments or as independent study exercises for students who wish to learn more about public transportation on their own.

In general, the activities focus on the advantages and disadvantages of using public transportation and on the difficulties involved in improving public transportation service.

Several of the research activities are oriented toward public transportation needs in the students' own communities (Activities 33, 34, 35, and 36). Junior high school students will develop a better appreciation for the issues related to public transportation if they study them in the concrete and relevant context of their own communities than if they investigated them in the abstract or with reference to other communities about which they may be unfamiliar.

The research activities which follow also focus on a number of other key concepts:

- Public transportation can have positive and negative effects on the environment.
- Citizens need to evaluate the effects of public transportation on the environment in order to decide which public transportation services to advocate.
- The public needs to consider whether public transportation should be designed to accommodate the needs of the transportation handicapped and, if so, how.
- Certain sacrifices may be necessary on the part of some citizens in order to improve public transportation.
- The public must decide whether it wants to make the necessary sacrifices to ensure adequate public transportation and carpooling services.

- More efficient use of the automobile--for example, through carpooling--as well as increased use of public transportation can help reduce the harmful effects of excessive automobile use on the environment.

By engaging in these research activities, either independently or in small groups, students will be able to share what they learn about these major public transportation issues and pool their combined wisdom into a comprehensive understanding of the nature of public transportation in America today.

MINI-UNIT 7 LESSON PLAN

Researching public transportation issues

Activity #	*Activities*	*Class Time*
29 Spirit Master #5	DESCRIPTION: Students plan a public transportation system for their community. GOAL: To be aware of the need for public transportation.	3-5 periods
30	DESCRIPTION: Students plan the construction of a new or expanded public transportation system, weighing its environmental effects. GOAL: To be aware of the beneficial and harmful effects public transportation can have on the environment.	1-4 periods
31	DESCRIPTION: Students interview various groups who have difficulty using public transportation. GOAL: To be aware of why some people do not use public transportation.	2-3 periods, plus out-of-class time
32 Spirit Masters #6 and #7	DESCRIPTION: Students poll the public on its positive experiences with and complaints against public transportation. GOAL: To be aware of the advantages and disadvantages of using public transportation.	1½-3 periods, plus out-of-class time

MINI-UNIT 7 LESSON PLAN (CONTD.)

Researching public transportation issues

Activity #	*Activities*	*Class Time*
33 Spirit Master #8 and #9	DESCRIPTION: Students poll friends, neighbors, and strangers to learn what public transportation modes and improvements the community needs. GOAL: To be aware of the need for public transportation services in their community.	2-4 periods, plus out-of-class time
34	DESCRIPTION: Students research methods for filing complaints with different public transportation authorities and how each agency handles consumer complaints. GOAL: To know how to register complaints for unsafe, inefficient, or unclean public transportation service.	½-1 period
35 Spirit Master #10	DESCRIPTION: Students research methods of citizen participation designed to promote public transportation. GOAL: To know what constraints make it difficult to improve public transportation and methods for overcoming them.	1½-3 periods, plus out-of-class time
36	DESCRIPTION: Students research the effects of automobiles on the environment and compare these effects in their own and other communities with the effects of public transportation vehicles. GOAL: To know what the comparative effects of public transportation and cars are on the environment.	1-3 periods, plus out-of-class time

ACTIVITY #29

Mini-unit Topic: Research Projects   Approximate Class Time: 3-5 periods

Capsule Activity Description: Students plan a public transportation system for their community.

Goal:
To be aware of the need for public transportation.

Concepts Treated:

- Automobile traffic patterns and population density must be considered in determining the need for public transportation.
- Different public transportation systems have different advantages and drawbacks.

ACTIVITY

Divide your class into small groups of three or four students. Provide each group with a map of your city or town or you may use the map of the fictitious town provided on Spirit Master #5. The students, using the map provided, lay out a public transportation system (e.g., bus, light rail) in their community. It is best to keep the systems simple at first and use only one mode of transportation.

Discuss with the class some or all of the following points necessary for the planning of a public transportation system. The items may be outlined on the chalkboard and left up to the students to deal with and discuss within their groups, or the class may spend time together going over the various points in detail. Use your discretion, based on your students' ability level, to decide which points you would like your students to consider while planning their systems.

When planning a public transportation system consider

- Target service areas: areas having high population densities, high concentrations of jobs and shopping activities, or other attractions, such as hospitals or recreation facilities (e.g., parks, sports stadiums/arenas, swimming areas)

- Areas of high and low traffic density and the subsequent effects of these on the flow of public transportation

- Areas in the community where public transportation would not be necessary or feasible

- Criteria for determining which system is most suitable for the community

When the students are familiar with the needs and problems of their community, they lay out their systems according to a set number of steps and route miles. You may wish to establish these criteria yourself, according to the nature of the community and the type of map the students use. For example,

> 60 stops along ten miles of route for a community with a population of _____ and covering an area of _____ miles

The groups may not exceed the criteria you set forth.

Routes are drawn on the maps in different colors and all stops are clearly indicated with a design of the group's choosing. All possible transfer points are marked in a similar fashion. The systems are to be as efficient as possible and reflect the community's needs.

When the systems are mapped out, each group of students presents its public transportation system to the class, defending its system and the reasons for route and stop placement. Systems are compared and discussed. Three or four of the best systems are chosen for further discussion and refinement, and the class adopts one plan for construction.

If your community already has a public ground transportation system, group plans can be compared to the system in existence and all existing and proposed systems evaluated in light of the community's present needs.

Evaluation Method:

Students select a public transportation system in their own community and evaluate whether it was properly planned and how, or whether it was not properly planned and how it should have been planned.

Variations and Supplementary Activities:

This activity can also be conducted in terms of designing a carpooling system to complement or substitute for a public transportation system. It may be especially helpful to use carpooling as the activity's focus in communities where no public transportation is available.

Each group works with a *different* number of stops and allowable route miles and the resulting systems of varying dimensions can be compared according to efficiency, convenience, and cost.

System plans are pasted onto cardboard and cut into pieces for jigsaw puzzles.

A transportation planner comes to class to further discuss how a transportation system is developed and to evaluate group plans.

For more advanced students develop a system having more than one mode of transportation.

More advanced students might also devise a schedule for the public transportation system making sure to allow for easy transfers from one line to another.

ACTIVITY #30

Mini-unit Topic: Research Projects

Approximate Class Time: 1-4 periods

Capsule Activity Description: Students plan the construction of a new or expanded public transportation facility or system, weighing its environmental effects.

Goal:

To be aware of the beneficial and harmful effects public transportation can have on the environment.

Concepts Treated:

- Public transportation can have positive and negative effects on the environment.
- Citizens need to evaluate the effects of public transportation on the environment in order to decide what public transportation services to advocate.

ACTIVITY

Prior to planning their public transportation service, students discuss ways in which transportation can affect the environment both beneficially and harmfully in terms of:

Pollution: Air, noise, and water. Also included in pollution is visual unsightliness (litter, ugly architecture, billboards, etc.). Do public transportation vehicles increase pollution, decrease it by enabling travelers to use less polluting forms of travel, or both at the same time?

Land consumption: Do transportation facilities (rails, bus stop shelters, etc.) take up land that might be put to other useful purposes, such as parks, roads, or housing?

People displacement: Do new facilities (rails, for example) require relocation of home owners, businesses, farms, and public buildings?

Population shifts: Does public transportation enable or encourage people to move out of cities into suburbs or vice versa? Do transit stations encourage high density development around them?

Accessibility to the natural environment: Do transportation services enable people to visit parks, see scenery, go fishing or boating, etc.?

Energy use: Does public transportation help to conserve scarce energy resources? (See Activity 14 for chart on energy usage.)

Accessibility to work and shopping areas: Does public transportation expand the possibilities for work, particularly for low-income people?

After identifying these aspects of transportation's effects on the environment, students write responses to the following scenario (which you can adapt to fit the peculiarities of your students' own community):

> You are the city (county, etc.) commissioner for environmental protection. You have been asked by the mayor (county commissioner, etc.) to participate in a task force on the planning of a new commuter train system (or bus system, subway station, ferry station, etc.) in the city of .... The mayor wants to know *where* to build the tracks and stations so that they will damage the environment as *little* as possible by avoiding pollution, not forcing people and businesses to move, not using up land needed for other purposes, and not stimulating people to move out of the city. With these concerns in mind, *where will you build it?*

Break the class into small groups and provide each student with a map of the community, with a map of some other community, or with a map of a fictitious community. Along with the map, groups are given written instructions to

1. Compare each other's papers.

2. Concretely plan the construction and route of the train line and stations, considering such environmental issues as where to build them so as to minimize disruption of existing buildings, historic sites, parks, natural resources, and other community resources; automobile or other public transportation problems that may result from this new facility (e.g., need for special parking places?); noise pollution (air, too, if facility will be a bus line); and reducing automobile traffic in the community (and perhaps bus travel, too).

3. Decide what citizen groups, if any, to involve in the planning of the system.

After deciding where to build their commuter line (or other facility), groups keep a written record of the reasons for their decisions and indicate their route and stations on their maps. Each group then describes its system to the class and justifies the route in terms of its effects on the environment. Class compares groups' routes and stops and explanations for them, seeking to resolve differences among the different construction plans.

Evaluation Method:

Students invite an environmental expert or appropriate town official to class to evaluate their plans. Students defend their plans against any criticisms or modify their plans if needed.

Variations and Supplementary Activities:

Students can discuss whether the proposed commuter line or other public transportation expansion is desirable not only from an environmental standpoint but from a social and economic perspective.

Different groups of students can discuss the environmental effects of different types of public transportation improvements or expansions in their community; one group can discuss subway expansion, another a new bus line, a third a ferry system, and a fourth a commuter train line.

Different groups can also discuss what the environmental effects of the same public transportation improvement or expansion might be on different types of communities--inner city, urban, suburban, small town, and rural.

Students can interview citizens on where *they* would like to see a proposed or hypothetical public transportation system expansion take place and what the reasons for their choices are.

Students can interview local transportation officials about the extent to which they consider environmental issues when planning public transportation improvements or additions.

Students can research the environmental impact statement process as it relates to the construction of transportation systems. The environmental impact statement process is spelled out in the National Environmental Policy Act of 1969.

Students can evaluate an existing public transportation system in their community in terms of its beneficial and harmful environmental effects.

Students can discuss how making more efficient use of the automobile (for example, through carpooling and trip consolidation) can also help reduce transportation's harmful effects on the environment.

ACTIVITY #31

Mini-unit Topic: Research Projects

Approximate Class Time: 2-3 periods, plus out-of-class time

Capsule Activity Description: Students interview various groups who have difficulty using public transportation.

Goal:
To be aware of why some people do not use public transportation.

Concepts Treated:

- Many people have difficulty using public transportation because of physical or age handicaps.
- The public needs to consider whether public transportation should be designed to accommodate the needs of the transportation handicapped and, if so, how.

ACTIVITY

Students interview (1) the handicapped (these may be divided into subgroups: people in wheelchairs, persons using crutches or similar aids, blind people, deaf people); (2) the elderly; and (3) children regarding their ability to use public transportation. (If there is no public transportation in the community, students can ask their questions in terms of what problems these handicapped groups would *anticipate* having were public transportation available.)

Students make up an interview guide or poll (depending on whether this is to be a fairly lengthy interview or simply an option sampling). Poll questions might include the following:

1. Have you traveled by public transportation in the last month?

   Yes ( ) No ( )

2. If yes, how many times have you taken public transportation in the last month?

   1-5 ( ) 6-10 ( ) 11-20 ( ) More than 20 times ( )

3. If the answer to #1 is no, what are the reasons for your not taking public transportation?

   Difficulty getting to a stop ( )
   Difficulty boarding vehicle ( )
   Expense ( )
   Difficulty of knowing where you are and getting off in time ( )
   Attitude of vehicle operators ( )
   Attitude of other passengers ( )
   Other (specify)________________ ( )

4. If you do use public transportation, would you like to use it more often?

   Yes ( ) No ( )

5. If yes, what prevents or discourages you from using it more often? (See list of possible responses to Question 3 above.)

If students decide to do interviews--that is, go into more depth--an interview guide must be developed. This guide would be more open ended than the poll questionnaire and have lead questions, such as the following:

1. Do you ever take public transportation?
2. Do you have any difficulties with public transportation? If so, what are they? Are there any things you like about the public transportation that you use?
3. Do you have any suggestions for improving public transportation so that you and people like you could use it more easily?

Students should test their questionnaire or interview guide before using it. One way to do this is to test it on one another. Major purposes of the test are to see whether any of the questions are unclear, elicit useless answers, or embarrass the interviewee. Some training of students may be necessary to handle this poll tactfully. Students can precede the interviews with a visit to a local association for the handicapped for help in this regard.

Students then decide whom to poll or interview. Places to conduct interviews or polls include nursing homes, hospitals and rehabilitation centers (for handicapped persons); senior citizens centers, social security offices, parks, and residential communities that are restricted to the elderly (for elderly people); and schools (for children and young people).

Follow-up discussion should be held in which students compare the results of their polls or interviews. Students can also compare their findings with those voiced at a series of nationwide public hearings and with several government efforts to address the needs of the disadvantaged presented at the end of this activity. Students can then in small groups or as a class debate whether public transportation should be built or renovated to accomodate the problems of the travel handicapped and why or why not.

Evaluation Method:

Students describe the reasons people with transportation handicaps often have difficulty using public transportation in letters to appropriate town transportation officials.

Variations and Supplementary Activities:

Invite several guests (particularly from the population suggested above) to class to discuss any problems they have experienced using public transportation.

Students can conduct a similar poll around issues involved in carpooling.

The Travel Needs of the Elderly and Handicapped*

Although the highest number of comments from the public hearings were on the general subject of balanced transportation, the most vocal ones on a particular subject came from those concerned about the transportation problems of the elderly and handicapped. Though a minority of consumers think the Federal government should not fund or regulate anything ever, transportation for the elderly and handicapped is one area where there was general agreement that subsidies, regulations, laws, research, and planning are greatly needed. The elderly and handicapped and representatives of organizations working with them turned out in numbers at most of the hearings and articulated their problems and needs repeatedly.

General

Consumers at the hearings believe there is a serious lack of available and accessible transportation for the elderly and the handicapped. They believe that transportation for this group of consumers should be considered a right, not a privilege, and that to deny this is not only discriminatory, but a denial of their civil rights.

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*From *The Voice of the Transportation Consumer: Executive Summary* (National Technical Information Service: Springfield, Virginia, 1975).

The handicapped in particular repeated their demands at a number of hearings that all public transportation vehicles, terminals, and walkways be designed barrier free so that even those in wheelchairs can move freely from walkways to buses, terminals, subways, and planes without assistance. They want their needs to be considered in planning all transportation systems and feel that designs that are architecturally barrier free will not only benefit the handicapped but will help the elderly and other transportation consumers as well. Many who testified clearly believe that the handicapped and elderly lack transportation opportunities because design features prevent use of existing transportation systems. The lower income that often accompanies elderly and handicapped people also prevents extensive use of most forms of available public transportation because they just can't afford it. In addition, the high cost of transportation hinders some handicapped people and older adults from taking available jobs. Transportation facilities with fewer barriers and door-to-door service, such as taxis and special buses, usually charge fares far beyond their means. Lack of transportation opportunities and the prohibitive costs isolate and trap the elderly and handicapped in their homes, deny them access to medical care and job opportunities, and make it difficult to attend church, go shopping, visit friends or participate in recreational activities. Such confinement also sometimes contributes to psychological disorientation and to poor physical health.

Many of the elderly and handicapped are dependent upon the kindness of their neighbors and friends because there is no other form of transportation available. They hesitate to ask except for urgent trips. Consumers strongly believe that transportation services for the elderly and handicapped are essential so that these people can be productive to society and have a good quality of life, where possible, as opposed to existing in nursing homes or depending upon government welfare. Some consumers said at the hearings that the costs of providing transportation services for the elderly and handicapped will be more than offset by eliminating some of the need to provide welfare. Many can earn a living, contribute to society and enjoy more of the pleasures of life if accessible and inexpensive transportation is made available.

Consumers feel that, despite all of the research that has been done on this subject, more is needed to determine the extent of the problem and specific needs and solutions for the various types of handicaps and infirmities. More facts and figures must be developed, and most importantly, input must be obtained from the elderly and handicapped themselves since they are in the best position to accurately reflect and advise on their specific needs. A number of people present at the hearings stated that DOT and other government agencies are not taking sufficient action to meet the transportation needs of these two groups of consumers with somewhat related needs. They strongly recommend government action to help the elderly and handicapped gain more mobility.

Special Needs

..... Responses to Question 26 of the questionnaire ... (which asks the special transportation needs of the elderly and handicapped in the respondent's community) indicate that 53 percent of those responding cite more frequent public transportation services as the most pressing special need. The second category, in order of importance, shows that 47 percent of those responding feel that a discount on fares is important. Because many are retired or are unable to work, incomes are often too low to afford frequent use of public transportation facilities or any other form of transportation; consequently, the plea for reduced or free fares in order that they may not be trapped or isolated. Of those responding to Question 26, 38 percent cite the need for more education and information as to available services, and 35 percent want specially designed space on all public transportation systems for the nonambulatory in wheelchairs.

Health Facilities

Public testimony revealed that a strong need exists for low cost transportation facilities for the elderly and handicapped people to get to and from health clinics in urban as well as rural areas. There is also a need for door-to-door transportation between an individual's home and health facilities for the handicapped and elderly who cannot use existing public transportation systems. This need exists because of their inability to walk to stops, to maneuver wheelchairs over curbs and steps, and to get in and out of buses, trolleys, subways, etc. This door-to-door transportation should be subsidized by the government, many consumers believe, because of the inability of a high percentage of the handicapped and elderly people to pay for this service.

Security and Safety

A major obstacle in the use of transportation systems by the elderly is their fear of being unable to cope adequately with the details of making a trip. This fear is somewhat related to (or the result of) such infirmities as impaired hearing, poor vision, and poor coordination. Another contributing factor is fear of being attacked or mugged at bus stops, which does happen to some. Consumers believe that bus terminals should have enclosed waiting rooms with security guards present and that subways and other mass transit facilities should be under increased police surveillance.

Bus Transportation

In the categories of transportation by modes, the most serious problems affecting the elderly and the handicapped are those related to bus transportation in urban or metropolitan areas. There are also problems for the elderly and handicapped who travel by bus from one city to another. Neither the buses nor terminals are accessible to the handicapped. Conventional bus design is inadequate for the elderly and the handicapped who are not well coordinated or fully ambulatory. The steps and overhead hand rails are usually too high. In addition, there is inadequate space for wheelchairs, floors are not always skid free for those who use crutches, there is usually little space for bundles, and there is no guarantee of a seat. In public testimony, consumers stated that they want public transit systems to be architecturally barrier free. In response to Question 26, consumers recommend facilities which will make it easier to board and leave public transit vehicles, including hydraulic lifts if the floor of the vehicle entrance or a ramp cannot be adjusted to curb level. Some newer bus designs being demonstrated, and now in limited use, have such features. Many consumers, especially the elderly and handicapped, believe that all buses should be designed with the problems of the elderly and handicapped in mind and that funding for buses should be contingent upon this specification. In Philadelphia, consumers expressed concern over what they termed the lack of adherence to the Urban Mass Transit legislation of 1970 which required special consideration for the needs of the elderly and handicapped. Some requested that minibuses that can accommodate wheelchairs be provided in the interim period until public transportation systems can be made both available and accessible to the handicapped and elderly.

Consumers believe there is a great need for more door-to-door bus service (such as dial-a-bus) to accommodate the elderly and handicapped who cannot get to the main bus routes. At the very least, there should be a system of feeder minibuses in neighborhoods which will take the elderly to the main bus routes; perhaps the handicapped also if feeder and main buses are barrier free. In response to Question 26 of the questionnaire, a considerable number of people recommend use of special jitneys, dial-a-ride buses, or minibuses that are demand activated for the elderly and handicapped. In order to properly sustain the operation of these buses, many consumers believe that the Federal government should provide operating subsidies as well as capital grants. This view was expressed for bus transportation in general as well as for specially equipped buses and door-to-door small buses to accommodate the handicapped and elderly.

In addition to more flexibility in scheduling, consumers want more concentration of stops in those areas having large numbers of elderly residents. In several cities, there was a plea for more circuitous routes rather than all routes running into the center of the city. Consumers also believe that Federal funds should be provided for more bus shelters and that more wheelchairs should be available at bus terminals to accommodate the handicapped and the elderly who have difficulty walking. In addition, there should be elevators at accessible locations in terminals. Escalators frighten some elderly people who are not well coordinated and those in wheelchairs must have elevators in terminals with more than one floor if they are to move freely from one destination to another without assistance.

Consumers also asked at the public hearings that fares for senior citizens be lowered or even eliminated entirely during all hours of the day and not just during a limited period of time between daytime commuter rush hours. As noted before, 47 percent of those responding to Question 26 cite a discount on fares for the elderly and handicapped as an important need.

Mass Transportation

There is clearly a need for all mass transportation, not just buses, to be more available and accessible to the elderly and handicapped. As noted previously, this view is supported by the responses to Question 26 of the questionnaire in which 53 percent of those responding feel that more public transportation is a special need of the elderly and handicapped, the single largest percentage in answer to that question. The 47 percent citing discount fares as a need applies to all forms of mass transportation.

Consumers believe there is a need for barrier-free feeder systems from residential neighborhoods to interface with all forms of mass transit systems including the rapid transit systems now being developed in some metropolitan areas. For example, feeder systems to permit the elderly and handicapped to reach rapid transit systems such as BART in San Francisco are needed. BART is designed barrier free but most feeder systems to BART are not. Consumers feel that most mass transportation terminals, including railroad stations, need redesigning to include elevators and other barrier-free facilities. Certainly the high steps and high hand holds on many transit vehicles and cars should be redesigned for use by the elderly, according to testimony at the hearings. Also curbs need to be designed with ramps so that the handicapped can move into terminals and get to vehicles and transit cars.

Consumers strongly believe that the elderly and handicapped should be considered in *all* mass transportation planning and that they should be represented on the agencies and committees that plan and make decisions regarding all mass transportation systems. This is the only way to assure that the true needs of the elderly and handicapped will be considered. BART is barrier free mainly because the handicapped were in on the planning. All facilities in the cars and terminals of this system are designed so that the handicapped in wheelchairs can move freely unaided.

Blind People

Some consumers at the consumer public hearings felt that blind people as a special category of the handicapped should be provided with reduced fares on airplanes and buses as they are on trains since their income is generally low. Blind consumers feel that more attention should be given to enforcement of the "white cane" law and that perhaps education is needed on provisions of the law. One person requested that bus and transit operators be required to call out stops for the benefit of those who are blind or who have poor vision since it is impossible to see street signs and know where to embark. Support was expressed for use of the Braille system at strategic locations to provide guiding signs and travel information for blind people. Also, there was concern expressed regarding the transportation problems of color-blind people.....

Special Transportation Systems and Vehicles

Most of the handicapped were strongly against special transportation systems and vehicles designed just for them in lieu of beginning now to develop barrier-free mass transportation systems. They want to be able to use the system used by everyone else. However, they do advocate special systems and vehicles as interim measures realizing that it will be years before all transportation vehicles, terminals and walkways are barrier free. They also want barrier-free vehicles and systems to interface with rapid transit systems such as BART.

Support was expressed for most of the current innovative systems and vehicles now being used and demonstrated over the country including: vans equipped with lifts and space for wheelchairs, station wagon pick-ups for elderly, minibuses, dial-a-ride, and other demand responsive systems. The elderly and handicapped particularly like some of the well designed, door-to-door, small buses and vans.

Some who spoke at the hearings expressed support for privately operated van companies or other companies that perform important transportation services for the elderly and handicapped receiving subsidies from the Urban Mass Transit Administration (UMTA). They also believe that the U.S. Department of Transportation (DOT) should finance more demonstration projects for transportation systems for the elderly and the handicapped. A few felt this problem has been studied and researched sufficiently and that enough is known to act and act now.

Government Action

Consumers generally believe that DOT and the Federal government have an obligation to improve transportation facilities and services for the elderly and the handicapped, and that there should be cooperation between Federal and state agencies in this regard. Most believe that research and planning should be accelerated to remove travel barriers and that such research should be based, at least in part, upon input from the handicapped and elderly. In addition, there should be better coordination between such Federal agencies as DOT and HUD to insure that adequate transportation facilities are available to Federally funded housing. Consumers expressed the belief that DOT should cooperate more with vocational rehabilitation agencies and the Administration on Aging to meet the specific problems of the handicapped and elderly.

Some support was expressed for DOT to recommend a transportation subdivision of the President's Committee on Employment of the Handicapped and for DOT to have a goal of a sticker from this committee on all transportation modes in all parts of the country. Though consumers concede that there is still need for research, they think the real need is for action to improve transportation for the elderly and handicapped. As for funding, consumers believe that transportation for the elderly and handicapped should have high priority in allocation of Federal subsidies.

Some handicapped consumers at the hearings asked that DOT sponsor legislation to permit the handicapped to deduct all transportation expenses, not just those that are employment related, from their income tax returns. Some believe that special government aid or reimbursement should be provided the disabled in order for them to meet the unusually high transportation expenses they incur. Handicapped consumers, particularly those in wheelchairs, think that because they pay taxes that go to build and support mass transit systems, which they are now generally unable to use, it is only fair for the government to help them meet their exorbitant transportation expenses. They also believe that special transportation services for them should be regulated, otherwise vendors will raise prices if legislation is passed providing for reimbursement of their transportation expenses. Many consumers believe that there is need for legislation that would make it mandatory that all public transportation be accessible and useable by the elderly and the handicapped.

Consumers voiced concern that inner-city minorities do not have adequate transportation to employment opportunities in the suburbs and that the need for better mass transit within the inner city is acute.

Consumers object to transit plans that are implemented without regard to their effect on minority neighborhoods and are concerned that transit authorities have exploited and ignored the needs of black communities. The transit development plan for St. Louis, some consumers in that area feel, blatantly discriminates against the black community. Similar concern was expressed in Atlanta.

To overcome some of the discriminatory practices, consumers think that DOT should have guidelines requiring representation of blacks on transit agencies funded by the Federal government. In addition, they feel that the Federal government should help black contractors, through training programs and subsidies, to obtain highway and other transportation contracts presently denied them because of their inability to be bonded for lack of sufficient capital and expertise. At the very least, minority contractors, they feel, should be guaranteed equal opportunity in securing transportation contracts. There was support for Federal government assurances, possibly by withholding highway trust funds, for minority inclusion in ownership and in decision-making positions in all transportation related industries. In Greensboro, North Carolina, it was suggested that the Federal government give financial assistance to privately owned black transit companies, such as Safe Bus which has operated at a loss because of segregation practices in the area.

Consumers are also concerned that DOT demonstration projects are not held in the inner city. They also want public accommodation laws more strictly enforced and applied to non-Federal highways, because they feel that discrimination still exists in public accommodations.

Native Americans

Fort Yates Reservation leaders expressed concern about poor road connections on or near the reservation. They want DOT highway funds to go directly to the reservation rather than to the state so that Indians will be assured of both contracts and job priorities in road building.

Elsewhere, consumers expressed concern about the lack of transportation for Indians and migrant laborers to enable them to take care of their medical, personal, and social needs. In Tucson, Arizona, there was a consumer complaint that the transit company does not include the Indian reservation in its bus route.

Spanish and Other Non-English-speaking Citizens

Some consumers voiced the opinion that all local transportation planning reports, studies, and related materials be printed in Spanish (Chinese was also suggested), so that all people can better understand and participate in transportation planning affecting their neighborhoods.

MOBILITY FOR THE DISADVANTAGED*

Requirements of the Legislation

Section 16 of UMTA's legislation states that special efforts shall be made in the planning and design of mass transportation facilities and services so that they can be effectively used by the elderly and the handicapped. This section was amended in 1973 to allow 2 percent of UMTA's total obligations to be set aside exclusively for financing programs and activities to meet the special needs of these groups. As corollary to Section 16, the 1973 Federal-aid Highway Act requires the Secretary of Transportation to assure that transit projects financed under the highway program can be effectively used by elderly and handicapped persons.

The UMTA legislation now permits applications for grants from private nonprofit organizations to provide the required services where the efforts of a public transportation company are found to be unsuitable or insufficient. UMTA will be working with the states to carry out this provision.

Funds from UMTA's capital grant program can be used to provide specially equipped buses and bus shelters, to make rapid transit station improvements, to remove travel barriers, and to improve safety. Technical study funds are available for data collection, analysis of the needs of special user groups, and planning for special services. Research, development, and demonstration funds may be used to do research on the transportation needs of the disadvantaged and to increase the information and technology available for providing improved transportation facilities and services.

The TRANSBUS Program

A particularly challenging objective of the TRANSBUS program is the removal of physical travel barriers to the elderly and the handicapped. New design concepts will be tested to provide access to the bus system for an individual in a wheelchair, for example. The final version of each of the three prototype designs will feature a different approach to this design problem.

The Haddonfield, New Jersey, Dial-A-Ride

Both the scope and concept of the demand-activated transportation system is being demonstrated within an eight-square-mile area in Haddonfield, New Jersey, with door-to-door Dial-A-Ride. Twelve small buses, designed for maximum comfort, are radio dispatched in quick response to called-in requests for service. The Haddonfield

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*From *Highway and Urban Mass Transportation* (September, 1974).

community is now enjoying transportation that can go anywhere on any city street; has high security against crime; provides door-to-door service 24 hours a day, seven days a week; and supplements the inflexible rapid transit system in meeting both peak and off-peak requirements.

Although Dial-A-Ride has appealed to the public generally, elderly and handicapped people, housewives, and young people have found it particularly inviting, because it gives them a new mobility, decreasing their dependence on friends or the family car. One of the buses is specially fitted to accommodate wheelchair passengers and those with other handicaps that prevent them from using standard public transportation.

Service Development Demonstrations

UMTA's service development program is a demonstration program specifically concerned with the problems of the transportation disadvantaged. It is designed to develop and try out, in cooperation with local communities, innovative types of transportation service for persons with mobility constraints arising from age, economic status, or physical disability.

Projects range from special circulation systems in the inner cities of large metropolitan areas to services in small towns or suburban areas. Each demonstration results in a detailed final report for use by other communities interested in setting up similar systems. Although the demonstration program is young, significant results are already being achieved. Five examples of UMTA's service development demonstrations for the handicapped and elderly are described below.

The Valley Transit Demonstration Project. In the lower Naugatuck Valley, Connecticut, six bright green and blue minibuses are proving to be indispensible to nondriving residents of four adjacent communities. The buses are part of the Valley Transit project, designed to develop a successful public transit operation by concentrating initially on the needs of health and social service agencies and other clients. Making the service completely accessible to elderly and handicapped persons was a major consideration in planning this project.

The unique system has the flexibility to provide three types of service: door-to-door by telephone request a day in advance; rent-a-bus reserved for exclusive group use; and regular fixed routes. The modern, carpeted buses contain the latest in safety and comfort features, including added support stanchions as well as a low front step and wide doorway for easy entry. One of the six vehicles has an electrohydraulic lift on the side, enabling persons in wheelchairs to enter easily.

The Valley Transit Demonstration Project is the first in the country to design and test a new concept in automated fare collection using credit cards. A passenger getting on or off the bus simply inserts the card into a special recorder. He then receives a monthly bill according to the type and amount of service received at the rates indicated in the fare structure. This computerized billing system also permits cost sharing between clients and agencies that have agreed to pay for a portion of their clients' trips.

The demand for dial-a-ride and rent-a-bus service has been so great that the Valley Transit District is taking action to more than double the size of its fleet. More than 20 health and social service agencies are using the service. System revenues are covering more than 70 percent of the operating costs.

A School Bus Demonstration in Klamath Falls, Oregon. Klamath Falls, Oregon, is a community of about 32,000, which had no public transportation and a high proportion of elderly. A vocal senior citizens group convinced UMTA and the Oregon State DOT that their city was the best place to conduct a pilot project testing the feasibility of using school buses during idle hours to provide the beginning of a community transportation system. In spite of long headways and the absence of service when the buses were transporting children to and from school, the response to the first limited service was overwhelming. Full service, developed during the summer months, further demonstrated the need for regular transit service. The community is deciding on the next step: conversion to regular transit vehicles or a school bus system supplemented by transit vehicles.

A Model Cities Demonstration. An UMTA demonstration grant to the Grand Rapids Transit Authority in Michigan has provided for a demand-responsive transportation system for the Model Cities neighborhood, a low-income area with a large percentage of autoless households. Five small buses operate from 6 a.m. to 1 a.m., transporting residents to senior citizen centers, day care centers, health and social service agencies, places of employment, and other destinations. Passengers may go anywhere in the city so long as one end of the trip is in the model neighborhood. Transfers are available to regular city buses.

The regular fare is 50 cents, but senior citizens pay 25 cents per trip, and children with their parents may ride free. A Model Neighborhood Advisory Council, composed of residents, insures that consumers have a voice in the operation and that it meets their needs.

TOTE in St. Petersburg, Florida. The TOTE logo is becoming a familiar sight on the streets of St. Petersburg, Florida. The acronym represents "Transportation of the Elderly," a demonstration assisted by an UMTA service development grant to determine the capability of an extensive door-to-door service to operate in harmony with a major fixed-route municipal transit system. The project area is ten square miles containing the central business district of St. Petersburg. The large majority of the area residents are older persons.

After registering with TOTE, handicapped persons and those over 60 years old may use several types of special service: a reservation system where a person can call 24 hours in advance and specify the time he wishes to be picked up and returned; a subscription procedure through which a person can make a continuing arrangement to be picked up on the same day at the same time every week until he notifies TOTE to stop or change the service; a higher-priced same-day service available on a limited basis; and rent-a-bus service for groups during the evening and on weekends. Drivers of the 12 van-sized vehicles being used in the operation have been specially trained to be sensitive to the particular needs of the elderly.

Transvan for Cranston's Elderly. The aged, the infirm, and the handicapped now have their own transit system in Cranston, Rhode Island, because of an UMTA demonstration grant. Three 19-passenger buses--one equipped to lift and carry four wheelchairs--provide door-to-door, demand-responsive service for the elderly and handicapped. Certain regular runs are made to medical and other commonly needed facilities, but customized trips are readily arranged by making a date by phone one day in advance. This successful service has now reached the point where there are more requests than can be scheduled in an eight-hour day with Transvan's three buses. In a year and a half, Cranston's unique system has grown to the point where it is serving over 800 elderly and handicapped citizens each week. Use of the system is on a subscription basis with a three-month pass selling for $1.25, ensuring unlimited service.

ACTIVITY #32

Mini-unit Topic: Research Projects

Approximate Class Time: 1½-3 periods, plus out-of-class time

Capsule Activity Description: Students poll the public on its positive experiences with and complaints against public transportation.

Goal:

To be aware of the advantages and disadvantages of using public transportation.

Concepts Treated:

- There are many advantages and disadvantages to using public transportation.
- Different people have different reasons for using and not using public transportation.
- Citizens should assess the pros and cons of using public transportation before they travel.

ACTIVITY

Either as a class or in small groups, students design one or more polls for learning the following information from users of public transportation:

1. What do they like about the different public transportation modes (bus, subway, taxi, etc.) in the community?
2. What modes have they found to be particularly efficient, safe, and pleasant?
3. What grievances, if any, do they have against any public transportation modes?

Different students or groups of students can develop polls designed to elicit information about different public transportation systems in the community.* After conducting their polls, students tabulate and analyze the results and report to the class the answers to whichever of the three questions listed above were asked. Two sample polls are provided on Spirit Masters #6 and #7.

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*If there is no public transportation in the community, students can develop poll questions that ask the public what kind of public transportation, if any, they feel their community needs and why. See the following activity.

Evaluation Method:

Students cite and explain the advantages and disadvantages of public transportation for each type of citizen polled.

Variations and Supplementary Activities:

Students can discuss whether consumer grievances about public transportation services should be publicized and whether the public should be encouraged to register complaints with appropriate authorities.

Students can discuss how the public can be motivated to seek actively to have its grievances redressed.

Students can conduct a poll to learn how the public rates public transportation service compared with that of airlines, intercity bus companies, and automobile manufacturers and mechanics.

Students discuss whether consumers should be encouraged to indicate to public transportation system authorities their positive experiences using public transportation systems and, if so, how.

Students can poll the public on its experiences with carpooling or on its thoughts about this mode of semipublic transportation.

ACTIVITY #33

Mini-unit Topic: Research Projects

Approximate Class Time: 2-4 periods, plus out-of-class time

Capsule Activity Description: Students poll friends, neighbors, and strangers to learn what public transportation modes and improvements the community needs.

Goal:

To be aware of the need for public transportation services in their community.

Concepts Treated:

- The adequacy of public transportation and carpools varies from community to community.
- Certain sacrifices may be necessary on the part of some citizens in order to improve public transportation.
- The public must decide whether it wants to make the necessary sacrifices to ensure adequate public transportation and carpooling services.

ACTIVITY

Either in small groups or as a class, students design one or more polls (or use the ones provided on Spirit Masters #8 and #9) and administer them to one or more groups in the community to learn the following information:

1. What (additional) public transportation services does the community feel are needed?
2. Do some groups in the community disagree over what additional services are needed?
3. To what extent would residents be willing to use their automobiles less if additional public transportation services were available?
4. Would residents be more likely to use public transportation if it were less expensive than it is now?

5. Is the public willing to make sacrifices--for example, reducing its use of automobiles or paying higher taxes--in exchange for an expanded or improved public transportation system?

6. How effective would carpooling be in the local community as a means of semipublic transportation?

Students can consider polling the community at random or specific groups, such as other students, school faculty and administrators, the handicapped, the elderly, the poor, children, and different parts of the community, such as suburbs, inner-city areas, and rural areas.

After developing and administering polls, students tabulate results and analyze them in terms of whether there is a consensus in the community on what additional public transportation services would be desirable and whether citizens would be willing to pay for them with increased taxes, reduced other services, or both. Students then compare their findings with the results of a series of nationwide hearings on transportation needs provided at the end of the activity.

Evaluation Method:

Students write a brief report describing their community's needs in the area of public transportation for submission to appropriate town authorities.

Variations and Supplementary Activities:

Students can discuss whether there is a need for educating the public to the need for additional public transportation services and, if so, who should provide the education.

Students can take their findings to appropriate local authorities and inquire whether needed improvements in public transportation can be provided and, if not, why not.

Students can discuss the extent to which the public's reliance on and preference for the automobile as a form of transportation interferes with the expansion and improvement of public transportation services, and if so, whether such reliance and use should be discouraged and how.

Students can role-play different community groups advocating different additions to the community's public transportation system or expressing different views on a specific suggestion for expanding the public transportation system.

Students can ask people whether they feel a carpooling system could benefit the community, and if so, how and why.

Bus Transportation*

Patronage

When consumers were asked if bus service was adequate and convenient in their area, 39 percent said it was, whereas 52 percent found it unsatisfactory. A total of 42 percent reported that they never use the bus (17 percent) or use it only occasionally (25 percent). Only 11 percent of the respondents said they use the bus frequently.

However, when consumers were asked, "If *free* bus transportation were available in your area, would you use it in place of your automobile?", of the 1202 respondents, 75 percent said yes, 19 percent said no, and 6 percent gave qualified answers. Consumers generally favor publicly owned systems they believe "produce greater ridership." They believe that in order to improve ridership, people must be educated to the use of mass transportation and that a better image of bus transportation must be developed to overcome the present stigma of riding a bus. They also feel that government agencies or transit authorities must be more responsive to citizen concern and complaints, and in many places, they cited a lack of communication between governmental agencies and the people concerning bus transportation.

When asked to select the changes they would recommend to improve bus service in their area, of the 1128 respondents, 43 percent chose better scheduling and information; 22 percent wanted more night service in the city; 21 percent checked lower fares; 19 percent would like to see more express buses during rush hours; and 16 percent would like more modern buses. One hundred nine consumers volunteered better routing and services as other bus improvements needed in their locality.

Adequacy of Service

Schedules. Frequently, consumers at the public hearings complained at length about the discomfort and inconvenience caused by infrequent bus service. They deplored the poor scheduling and unavailability of printed schedules. They suggested that better service could be provided by a mix of large and small buses, with the smaller buses or jitney types running more frequently. They feel more express buses should be used during rush hours.

In some places, consumers complained that buses stop running long before shopping areas close. For example, in St. Louis County, shopping centers close at 9 p.m. but buses stop running at 6 p.m., according to consumer testimony.

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*From *The Voice of the Transportation Consumer: Executive Summary* (National Technical Information Service: Springfield, Virginia, 1975); the volume reports on a series of 54 public hearings held throughout the country.

Routes. In addition to poor scheduling, bus routes came under fire by some consumers. They cited the need for more crosstown and circumferential routing around the city to enable a consumer to go from one suburban area to another or one side of the city to another without having to travel to the heart of the city and then out again. They believe routes should be designed to be responsive to people's needs and that riders should not be required to accommodate their needs to the routes.

Consumers ask for better coordination between city and county authorities to adequately service areas outside the city limits. More service is needed from the central city to suburban industry and jobs and to carry inner-city residents to suburban shopping areas. The present emphasis, they say, is on bringing people from the suburbs into the city to work. Interfacing with other modes would be acceptable. They like the idea of exclusive bus lanes and the use of peripheral parking in combination with shuttle buses from suburbs into and out of the city and cite the "Blue Streak" system in Seattle as a good example of effective transportation of this form. They also advocate small feeder bus lines for bus service to the main bus arteries. Some people complained that bus companies are not providing service on all of their designated routes. They want enforcement of regulations that require a bus system to cover the entire franchise area and not just the lucrative routes.

Availability of Equipment

Consumers want capital grants from the Urban Mass Transit Administration (UMTA) expedited. They feel that the Department of Transportation (DOT) should encourage manufacturers, particularly General Motors, to increase production and shorten delivery time of buses, perhaps with tax incentives. They say Federal funds are of no help to communities to purchase buses or operate them if the buses are not available.

Fares and Funding

Generally, consumers want more Federal funding for bus transportation, both for purchase of equipment and operating subsidies, although there are some bus authorities that appear to be self-sufficient. There is also some support for totally free transportation. It was indicated that free transportation seems to be working in Seattle, and there was advocacy for free transportation in the New York City area. Some consumers feel that higher fares reduce ridership and that higher fares without substantial government subsidy cannot do the job anyway. Others believe that if transportation is not to be totally free, fares should be lowered to encourage ridership. Concern was expressed that there may be some inequitable practices in setting fares, and it was suggested that greater effort should be made to provide a more equitable fare structure.

Safety

There was little comment on this subject at the hearings except in East St. Louis, where there appeared to be a dispute between community leaders of East St. Louis and the Bi-state Transit Authority. These leaders would like to see psychological testing of bus drivers and enforcement of Interstate Commerce Commission (ICC) regulations so that drivers do not work too many hours. They alleged that complaints in this regard to the ICC have been unproductive. They want the means to prevent drunken and drug-addicted drivers from operating buses.

Design

Consumers believe that buses should be designed in response to the desires of the consumers who use the buses. They want smaller buses with bigger doors and more comfortable seats, a place for bicycles, grocery carts, and strollers, and buses that will accommodate the elderly and the handicapped. A consumer in Knoxville, Tennessee, summed it up as follows: "Public buses are not designed with riders in mind; they should be modified to the specification of a panel of regular riders."

Shelters

A few consumers commented that the U.S. Department of Transportation (DOT) should encourage local bus companies to provide needed shelters and benches at bus stops, and should perhaps provide Federal funds for this on a matching basis.

Rapid Transit

There was overwhelming support for the development of rapid transit rail systems in metropolitan areas throughout the United States. ...This included support for monorail transportation, trackless trolleys, elevated lines, subways, and battery-powered buses. Support was expressed repeatedly for opening the Highway Trust Fund to develop rapid transit. In testimony at the public hearings, people from Rochester, East St. Louis, Illinois, and Pittsburgh specifically advocated development of a rapid transit system from the city to the suburbs and within the city; some consumers want to utilize existing rail lines, others want to develop a new system. Some are concerned that the cost of rapid transit is too high and that it will not necessarily be a final solution to our transportation problems because Americans are still heavily dependent upon their private automobiles for transportation. Generally, consumers appear to strongly favor development of rapid transit systems. There was some criticism of San Francisco's Bay Area Rapid Transit system (BART) as well as support. Those supporting BART feel that it will be effective when it is completed. Those opposing BART believe that it is solely for middle-class commuters, that it is too limited in its use, and that the number of people served by BART is too small in comparison to the number of people who are paying for it. Some believe that hours of operation should be extended so as to provide greater availability. A major point made by those who criticize the present operation of BART is that a feeder system to provide transportation from the neighborhoods to the BART stations is desperately needed.

Some consumers advocated better utilization of existing subway systems before building new ones. They believe that in the development of new subways there should be better planning with input from subway riders, and more interfacing of modes so as to make connections to the subways more readily available. One consumer objected to what he called "arbitrary" power of the New York Port Authority and the Metropolitan Transit Authority. Support was also expressed for having minorities participate in the planning of rapid transit systems, particularly the one planned for the St. Louis-East St. Louis area.

Some concern was expressed that subway stations and rapid transit stations are dirty, trains are in deplorable condition, there are insufficient facilities for the handicapped and inadequate signs and other sources of information. Others voiced concern that, despite the huge investment in rapid transit systems, they are presently used by only a small percentage of the population.

ACTIVITY #34

Mini-unit Topic: Research Projects

Approximate Class Time: ½-1 period

Capsule Activity Description: Students research methods for filing complaints with different public transportation authorities and how each agency handles consumer complaints.

Goal:

To know how to register complaints of unsafe, inefficient, or unclean public transportation service.

Concepts Treated:

- Public transportation authorities usually have mechanisms for processing consumer grievances.
- Some transportation authorities are more responsive to consumer complaints than are others.
- Consumers can increase the effectiveness of their attempts to seek redress of grievances if they learn how public transportation authorities handle consumer complaints.

ACTIVITY

This activity can be conducted by an entire class, by small groups of students, or by individual students. Ideally, the class breaks into small groups and each group conducts the research with a different public transportation service in the community--or with the same service, if there is only one. (Examples of services include bus lines, including not only public authorities but also any private companies--Greyhound, Peter Pan, Trailways, etc.--which serve commuters; commuter train lines; taxi companies; ferry operators; subway systems; and light rail systems.) Each group seeks the answers to the following questions from the public transportation authority responsible for the service selected by the group:

1. What are the major types of complaints the system receives?

2. What kinds of people complain (elderly, poor, men, etc.)? Do certain types of people register primarily certain types of complaints?

3. With whom are complaints usually registered?

4. Are these the people to whom you would like complaints to be made? If not, why not?

5. Are there any interesting variations in the times when complaints increase or decrease--such as after fare increases or during certain periods of the year?

6. What is the authority's policy for handling consumer complaints? What is its procedure? What mechanisms and staff does it have to process complaints?

7. What constraints may make it difficult for the authority to be responsive to consumer complaints?

8. Have there been any law suits brought against the system by citizens? If so, what were the issues and the outcomes?

9. What complaints does the *authority* have against *users* of its services and against other citizens who affect the system? What, if anything, does the system do about its grievances against the public? Does it have an educational campaign to correct abuses by the public?

Groups conduct the research primarily through interviews with authority officials and employees, but students can also poll the public on its complaints against public transportation systems and whether they have registered their complaints with a transportation authority (see Spirit Master #6); read appropriate literature about citizen complaints, including promotional literature by the companies and *The Voice of the Transportation Consumer: Executive Summary*,* which describes the results of nationwide hearings on citizens' complaints about transportation in the United States; and register a consumer complaint of their own and review the experience.

After conducting their research, groups analyze the results and prepare a written or oral report for the rest of the class. Comparisons are then drawn among the different authorities in terms of which authorities receive the most complaints and why; whether certain authorities receive different types of complaints than others; which authorities are responsive to consumer complaints and why; and which authorities have a regularized procedure for handling consumer complaints.

Evaluation Method:

Students write a brochure describing how citizens can register consumer complaints for poor public transportation service for display in the school library.

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*National Technical Information Service: Springfield, Virginia 22151. Catalog No. PB241764. $5.25.

Variation and Supplementary Activity:

Students investigate the means of redress for automobile repairs, airline travel, and intercity bus travel and then compare these with the channels for redress of consumer grievances against public transportation authorities.

ACTIVITY #35

Mini-unit Topic: Research Projects

Approximate Class Time: 1½-3 periods, plus out-of-class time

Capsule Activity Description: Students research methods of citizen participation designed to promote public transportation.

Goal:

To know what constraints make it difficult to improve public transportation and methods for overcoming them.

Concepts Treated:

- Many constraints make it difficult to improve public transportation.
- There are methods by which many, if not all, of these constraints can be overcome.

ACTIVITY

A small group of students researches the constraints that make it difficult for citizens to promote public transportation in their community and throughout the nation. The group also researches methods for overcoming these constraints.

Before your students conduct their research, tell them that there are new Federal regulations that require citizen input at the local transportation level. Explain that these regulations require any locality receiving Federal funds for a public transportation project (or a highway project) to provide for citizen participation in the decision-making process prior to securing any funds. (For additional information on this process, see the reading at the end of this activity.)

With this background information, students can then research three areas of study related to citizen participation to promote public transportation:

1. *What obstacles* make it difficult for citizens to take action to promote public transportation?

2. *Who* on the local, state, and national levels can be influenced most easily and effectively by citizens to promote public transportation?

3. *How* can these individuals or groups be influenced?

The group selects a case study, either a live community issue, a well publicized example, or a hypothetical issue such as the one described on Spirit Master #10.

The group then decides what research methods to use, for example, reading available literature, interviewing appropriate officials, or polling the public. The group divides responsibility for the research and carries it out. After completing research, the group compares findings and prepares and delivers a report. The class (or you) fill in data or considerations not discussed by students, being certain that all the following points are covered:

Possible Obstacles

Groups or individuals may have vested interests against public transportation due to lack of political or financial accountability by autonomous transit authorities, port authorities, etc. or lack of awareness or unconcern by government agencies and businesses regarding the importance of public transportation. Other obstacles include disclaimers of responsibility by government agencies and businesses for providing or improving public transportation services or vehicles; claims by business or government that additional research is needed to verify the need for public transportation--placing the burden of proof on the environmental protection advocate; industries and businesses who have powerful and well defined lobbies at all government levels and for whom public transportation improvement would cost money or involve loss of sales; the press and media, some of whom may be dependent on advertising by businesses that may be hostile to public transportation; politicians who are reluctant to support a program that might necessitate tax increases or other actions not popular among the voters and political supporters; politicians who are reluctant to jeopardize campaign contributions from businesses or who have business interests of their own which may be hurt by public transportation; lack of coordination among various government agencies and private businesses who could be involved in a unified program to promote public transportation; and log rolling among legislators: willingness to vote for (or to abstain from voting against) other legislators' bills in expectation of future reciprocal consideration.

Human factors that discourage citizens from taking action include laziness; resistance to spending tax money on public transportation; unawareness of the need for a balanced transportation system in which automobiles and mass transit complement each other; indifference; fear of reprisals; lack of time; fatalism or cynicism--belief that no action they can take will improve the situation; or selfishness. Also, the costs of providing adequate public transportation, in terms of both equipment and labor, are high--public transportation is often expensive to initiate and operate. Other budget items (for example, schools, fire protection, law enforcement) are often considered to have higher priority for funds.

Who Can Be Influenced

Target groups among the government, business, and educational community include some regulatory agencies and some politicians, especially at election time. On can seek out the most responsive and appropriate *level* of government--for example, local transit authority for fares, schedules, routing, condition of buses, unsafe driver behavior, and lost items; local officials for scheduling, routing, fares, condition of buses, and funding; consumer groups and Better Business Bureaus for scheduling, routing, fares, and the condition of buses; newspaper action lines to give wider circulation regarding public transportation problems; the U.S. Congress for funding and lack of adequate public transportation service; the Urban Mass Transportation Administration (UMTA), U.S. Department of Transportation, for funding information and safety defects in public transportation equipment; and the National Highway Traffic Safety Administration (NHTSA), U.S. Department of Transportation, for reporting safety defects on automobiles and buses. Citizens and citizen groups likely to take action include those whose personal interests are at stake (e.g., residents who need public transit) and those with a sense of community responsibility.

How They Can Be Influenced

Target groups among the government, business, and educational community can be influenced by citizen participation in public hearings held by transportation planning agencies* and by citizen involvement in advisory committees. Petitions and letter-mailing campaigns may be effective with some political leaders, especially during election years and when key bills are in committee or up for vote, and peaceful rallies and picketing at key times and places to publicize the issues may make authorities take notice and bring pressure to bear on targeted individuals, agencies, or businesses. Also helpful is introducing legislation into legislatures, town councils, etc. The mere proposal of legislation may bring results.

Citizens and citizen groups can take part in peaceful rallies that impart excitement, a feeling of participation, the hope of success to a line of action, and enlist new volunteers, or they can run educational campaigns via fact sheets, newspaper advertisements, and lectures. There is a need for specialists, especially planners, who have the time and energy to devote considerable attention to the campaign. All these can lead to the formation of coalitions among citizen groups for more power.

Evaluation Method:

Students are given a real or hypothetical case study in which citizen participation is needed to effect an improvement in the public transportation system. Students identify the obstacles involved in trying to make the citizen participation effective and how those obstacles might be overcome.

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*See Bibliography entries that discuss Federal regulations regarding citizen participation.

Variations and Supplementary Activities:

Students can develop their own hypothetical case studies, similar to the one provided on Spirit Master #10; exchange them; and in small groups, individually, or as a class repeat one or more of the steps in the activity using the case studies as a point of reference.

Students can identify personal, social, and political actions citizens can take to obtain the improvements in public transportation service they feel the community should have.

Students can role-play a person advocating a public transportation improvement with a person who opposes the improvement, with each person seeking to convince the other of the rightness of his or her position.

Participating in Transportation Planning

The Federal Highway Administration (FHWA) works with state highway agencies to ensure that community organizations and individual citizens are actively encouraged to participate in the planning and design of Federal-aid highway projects. Under the Federal-aid program, state highway agencies initiate, plan, design, build, and operate highway projects. (The FHWA provides financial assistance and guidance and is responsible for certain key approvals.) Each state highway agency has formulated a community involvement program--part of the state's action plan--which explains the procedures that are followed.

In addition to community involvement programs, each action plan explains how social, economic, and environmental factors are identified and studied, how the assistance of a wide range of professional skills is obtained and utilized, and how consideration of all feasible alternatives is assured in the highway planning process. Copies of action plans are available from state highway agencies or can be examined in their offices.

Action plan programs for community involvement include opportunities for interested citizens to participate in the planning and design process. In addition to public hearings, most states place emphasis on public meetings. Frequently such meetings are conducted as workshops, run with the assistance of local officials and agencies. In many instances coordination meetings are held with local officials prior to the public meetings. Under state action plans, mailing lists are maintained to provide early notification and continued information to known interest groups and individuals. Concerned citizens may contact their state highway agencies and ask to have their names placed on these mailing lists.

To ensure that environmental concerns and values are given systematic consideration equal to economic and technical considerations in the Federal decision-making process, the National Environmental Policy Act of 1969 (NEPA) requires each Federal agency to prepare a statement of environmental impact in advance of each major action, recommendation, or report on legislation that may significantly affect the quality of the human environment. Such actions may include new highway construction, harbor dredging or filling, nuclear power plant construction, large-scale aerial pesticide spraying, river channeling, new jet runways, munitions disposal, and bridge construction. Each environmental impact statement must assess in detail the potential environmental impact of a proposed action, and all Federal agencies are required to prepare statements for matters under their jurisdiction. The statement's primary purpose is to disclose the environmental consequences of a proposed action, thus alerting the agency decision maker and the public to the environmental risks involved.

As early in the decision-making process as possible, and in all cases prior to agency decision, an agency prepares a draft statement for review by appropriate Federal, state, and local environmental agencies as well as by the public. The impact statement procedure affords the public an opportunity to participate in Federal decisions that may affect the human environment. Each draft statement must be made public by the responsible agency at the time it is circulated for comment, a date not less than 90 days before the proposed action. Draft statements are announced in the *Federal Register* (published daily by the U.S. government and subscribed to by some local public library systems, many university libraries, and most law libraries).

After comment from the agencies and interested parties, the statement is prepared in final form, incorporating all comments and objections received on the draft and indicating how significant issues raised during the commenting process have been resolved. Both draft and final statement are made available to the public. Interested citizens may submit comments to agencies on any impact statement issued by them. If an individual believes a draft statement to be inadequate, he may offer written comments on the draft. If he believes the disposition of his comment in the final statement to be inadequate, he may so notify the agency involved.

In addition to these mechanisms for public participation, many agencies provide for public hearings not only at various stages during the performance of their statutory missions but during the impact statement process itself.

The importance of the role citizens play in the impact statement process has been recognized by the courts. In many cases, the courts have upheld the right, or standing, of citizens to sue on environmental grounds.

ACTIVITY #36

Mini-unit Topic: Research Projects

Approximate Class Time: 1-3 periods, plus out-of-class time

Capsule Activity Description: Students research the effects of automobiles on the environment and compare these effects in their own and other communities with the effects of public transportation vehicles.

Goal:

To know what the comparative effects of public transportation and cars are on the environment.

Concepts Treated:

- All forms of transportation have environmental effects.
- The effects of transportation vehicles on the environment can be neutral or harmful.
- The harmful effects on the environment of different transportation modes should be identified and considered in deciding how to travel.
- More efficient use of the automobile--for example, through carpooling--as well as increased use of public transportation can help reduce the harmful effects of excessive automobile use on the environment.

ACTIVITY

One of the arguments for using public transportation and decreasing use, where appropriate, of automobile travel is that automobiles have more adverse effects on the environment than do buses, trains, ferries, and subways per number of persons transported by each vehicle. In order to confirm the validity of this argument, students in small groups, individually, or as a class research the effects of automobiles on the environment in terms of noise pollution; air pollution; traffic congestion; influence on residential and work patterns; creation of a need for facilities, such as highways and parking lots, which take up land and may displace homeowners, apartment dwellers, and businesses; and energy consumption.

Students select research methods that are most appropriate to the availability of resources in their community. Examples of research methods follow:

Students can *survey* their neighborhood to determine the extent to which facilities servicing automobiles take up land in the community and whether this land could profitably be put to other purposes. Students can then compare the extent to which public transportation facilities also consume valuable land space (or, if the community has no public transportation, imagine how much space would be taken up if the community did have public transportation). Students should also be made aware that one out of six jobs throughout the country stems from transportation.

Students can *research* the effects of highway and road construction on the displacement of persons, businesses, farms, and community facilities by interviewing people who have been displaced (if known to the students), officials of businesses or agencies responsible for the displacement, and officials in agencies responsible for helping displaced persons and businesses. Students can compare the effects of highway displacement with the effects of displacement due to construction of public transportation facilities.

Students can *investigate* the effects of automobiles and of the facilities servicing cars on the appearance of the environment (for example, litter, billboards, junkyards) and compare these visual effects with those which result (or would result) from public transportation.

Students can place themselves in areas in which there are public transportation vehicles and compare the noise levels they produce with those produced by automobiles on limited access highways and busy streets.

Students can also *compare* the effects of commuting by single-occupancy cars with those of commuting in carpools in terms of emotional benefits and costs to passengers and impact on the environment.

Students can *read* appropriate literature on the environmental effects of the automobile and various forms of public transportation, such as the materials suggested in the Bibliography of this Manual.

Students can *interview* government agency officials in departments of transportation, highways, public transportation, and environmental protection on what effects automobiles and public transportation vehicles have on the environment.

Students can keep a detailed *written list* of their observations of transportation effects on the environment for a given period of time (such as one day, two days, or a week). Different students can pick different vehicles, including cars and buses. Students can compare the effects on the environment caused by automobiles with those produced by public transportation vehicles.

After engaging in one or more of these research activities, students compare the relative positive and negative effects on the environment and on promoting balance in the use of all transportation modes of automobiles and public transportation vehicles *in terms of the number of people they transport.* Class should be aware that there are, of course, many other factors that must be considered in assessing the relative merits of public transportation as opposed to the automobile, including economic costs, convenience, traveling times, safety, and speed. These other considerations are treated in other activities.

Evaluation Method:

Students describe the comparative effects of public transportation and automobiles in their own community.

Variation and Supplementary Activity:

Students debate one or more topics that compare the relative effects on the environment of automobiles as opposed to public transportation vehicles, such as, "Resolved, that an extension of the bus service between Grant and Lee Streets would be of greater benefit to the environment than widening Appomattox Street to accommodate more cars."

SUPPLEMENTARY ACTIVITIES

Activities 37-42 which follow can be used either in conjunction with one of the mini-units or individually, by themselves. They have not been included in the mini-units for one of two reasons:

- They treat the same topic area as an activity already in a unit--but do so in a different manner.
- They involve more time or preparation than many teachers will be able to devote to public transportation--but are excellent activities for the teacher who does have the time.

Activity 41 provides a general student evaluation of whatever public transportation courses you present to your class.

Activity 42, the last activity, suggests quiz questions you can use after teaching one or more of the mini-units or individual activities.

SUPPLEMENTARY ACTIVITIES LESSON PLAN

Activity #	*Activities*	*Class Time*
37	DESCRIPTION: Students give each other a starting point and a destination. Students then complete a story about a trip from the origin to the destination. GOAL: To identify different public transportation modes and how they are used.	1 period
38	DESCRIPTION: Students role-play scenarios in which a citizen complains to a provider of public transportation about the safety or convenience of the services provided. GOAL: To be able to register complaints about poor public transportation service.	1 period
39 Spirit Master #11	DESCRIPTION: Students complete a story in which they are forced to consider what public transportation services they would provide in their community to reduce use of cars. GOAL: To know some methods by which the public might be motivated to create a better balance between automobile and public transportation use.	1-2 periods
40	DESCRIPTION: Teacher and students evaluate class concerns about and attitudes toward public transportation.	¼-1 period

SUPPLEMENTARY ACTIVITIES LESSON PLAN (CONTD.)

Activity #	*Activities*	*Class Time*
41	DESCRIPTION: Students evaluate the course.	½-1 period
42	DESCRIPTION: Students answer oral or written questions on public transportation.	½-1 period

ACTIVITY #37

Supplementary Activity — Approximate Class Time: 1 period

Capsule Activity Description: Students give each other a starting point and a destination. Students then complete a story about a trip from the origin to the destination.

Goal:

To identify different public transportation modes and how they are used.

Concepts Treated:

- Travel by public transportation requires specific information about arrival and departure times, fares, and other information.
- Travel by public transportation can be enjoyable and interesting in and of itself.

ACTIVITY

Break the class into pairs of students and have one student in each pair give the other a starting point and a destination in the local community. Both students in each pair then write a story about a trip from the origin to the destination. The trip must involve at least one mode of public transportation.

In communities without public transportation, you can conduct the activity by having the students (1) write their stories as if public transportation *were* available in their community, (2) decide how a *carpool* could get them to the destination in their community, or (3) identify points of origin and destinations within a city that the students have been *studying* (for example, New York, Chicago, or Los Angeles) or within a *historical* city (for example, from 30B Baker Street to Victoria Station in London, if the students are familiar with Sherlock Holmes, or from the Eiffel Tower to the Cathedral of Notre Dame, if students have been studying Paris).

You might give the students hints about some problems to put into their stories to make them more interesting and also more relevant to public transportation, such as

- The bus requires exact fare, but you have only a one-dollar bill.
- It's 10:30 at night and the last subway train runs at 11:00. You are several blocks away from the subway station.
- You are on the platform waiting for your train, when a blind man asks you for help. He is going in the opposite direction from you.
- Someone in back of the bus is smoking a cigarette. The driver asks him to put out the cigarette, but the passenger refuses. The driver refuses to move the bus until the cigarette is put out. You are already late for a date with your girlfriend (boyfriend).

Evaluation Method:

Students select an itinerary in their community and describe how they would follow it using public transportation.

Variation and Supplementary Activity:

Choosing starting and destination points in their own community, students can contact appropriate public transportation facilities to inquire if local services connect the two points. Using this information, students make up "trip" stories.

ACTIVITY #38

Supplementary Activity

Approximate Class Time: 1 period

Capsule Activity Description: Students role-play scenarios in which a citizen complains to a provider of public transportation about the safety or convenience of the services provided.

Goal:

To be able to register complaints about poor public transportation service.

Concept Treated:

- Certain approaches are more effective than others in securing redress of grievances for poor public transportation service.

ACTIVITY

Students role-play citizens seeking redress of grievances from operators or crews of public transportation vehicles or facilities or from the administrators of such services--people who, according to these consumers, have failed to provide appropriate transportation service. Sample role profiles appear at the end of the activity.

After each role-play, participants read their role profiles to the class and discuss the feelings they had while role-playing. For example, the "operators" or "crew" of the vehicles or "administrators" of the services relate how they felt being confronted by a "citizen" and how different citizens' approaches and tactics influenced the way they responded or wanted to respond. "Operators," "crew," and "administrators" also indicate which citizen approaches (demanding, angry, reasonable, obsequious, threatening, etc.) inclined them to want to make concessions and why. Nonparticipants discuss what they would have said and done had they been involved.

After use of role profiles provided in the activity, students can break into small groups and write their own set of profiles to be acted out.

After completion of role-plays, list on blackboard the possible responses operators, crew, and administrators of public transportation vehicles and services can offer to justify their positions and the possible approaches citizens can use effectively to seek redress of grievances.

Evaluation Method:

Students describe some of the methods by which the public might be motivated to create a better balance between automobile and public transportation use in role-played dialogues between a "town transportation official" and a "news reporter."

Variations and Supplementary Activities:

Activity can be a class or small group discussion.

Students can treat the role profiles as the beginnings of stories and write different endings to them. Students can also write the endings to similar stories while other students, given these endings, write beginnings to them.

Role profiles can be developed in which handicapped persons are concerned about the lack of special consideration to meet their needs or profiles in which poor or minority persons complain about inferior service in their community.

Students can draft hypothetical letters of complaint in response to the problems described in the role profiles.

Students can role-play scenarios in which operators of public transportation vehicles complain to a public forum about passengers' improper behavior, including vandalism, rudeness, and unsafe behavior.

Students can visit the maintenance shop of a local public transportation agency for a tour that includes a discussion of how maintenance problems can affect the quality of public transportation service. (Many local bus agencies, for example, regularly provide such tours.)

Sample Role Profiles

Bus

Passenger

You, Ann Frost, take the bus every day to work and home. It's a convenient way for you to travel because there is no place to park where you work unless you want to spend $3.00 a day to use a parking lot. However, the bus drivers on your route make your day begin and end unpleasantly by driving in ways that to you seem dangerous. They open the doors to let off passengers before the bus has stopped and sometimes don't come to a complete stop, expecting a single passenger leaving the bus to jump off while it is still moving. In addition, the drivers go very fast at times and then stop suddenly for a light or car, jolting everyone on the bus. By the time you get to work in the morning you're ready to return home and take the day off.

This afternoon, you took an early bus home because you are packing for a business trip you are taking tomorrow. The bus is almost empty and it seems like a good time to complain to the bus driver about his behavior and improve the safety of the ride to and from work every day. The bus has come to a stop at a red light. What do you say?

Bus driver

You, Paul Cohen, drive the Main Street bus every day from Suburb Corner to Downtown Center. It's a frustrating job because of the traffic you have to cope with during rush hour and the crazy rush hour drivers who try to cut you off all the time. And you have to make a time deadline with each trip or your supervisor--and the passengers--are liable to complain. Passengers make this difficult for you because they take all day to get on and off at each stop.

Right now you're driving back to Suburb Corner with a mostly empty bus because it's 3 p.m., well before the rush hour insanity begins. But there's this passenger seated in the front window seat who looks like she's been wanting to say something to you. You wonder if it's another passenger who's going to bend your ear with a tale of family woe or just someone asking directions.

Taxi

Passenger

You, Louis Rizzo, frequently have to use a taxi to get from place to place on your job. However, you find it extremely unpleasant some of the time because the taxi drivers are so reckless in the way they drive, speeding, weaving in and out, running red lights, and so on. In fact, you've resolved that in the future when this happens you're going to put a stop to it. They don't even have seat belts in the back seats in case you get into an accident--something that happened to a friend of yours only last week when the taxi he was in ran a red light and was struck by a car at an intersection.

Right now you're on your way to an appointment in a taxi whose driver has just run a red light, tailgated a slow truck for three blocks, and come to a sudden stop when the truck stopped for a pedestrian at a crossing. You've had it! What do you say?

Taxi driver

You, Susan Martinez, earn a living driving a taxi. By and large, you like your job; it gives you the chance to be outdoors, see the city, and meet different people. But often the driving--as much as 12 hours a day, when you work overtime--really gets to you. The problem is that so many other drivers don't know how to drive properly. They drive at a snail's pace, come to a complete stop just to make a right or left turn, and panic at the sight of a light turning red. The only way you can keep your sanity in all this traffic is to keep moving as fast as possible--but still drive safely. You know that with all your driving experience you know what other drivers are going to do, so you can go gaster than most people with your superior driving ability. Besides, the faster you take customers to where they're going, the more money you make--because you then can pick up a new passenger and get that $0.75 onto the meter right off the bat.

Right now you've got a passenger going downtown in your taxi who is probably in a big rush going to a business deal. But all the lights seem to be turning red just as you get to them; you had to run the last one. Now you've been stuck behind a truck that's driving slower than molasses. It just came to a quick stop for a pedestrian and you slammed on your brakes. Stupid! Fortunately, you've got quick reflexes and can handle crazy drivers like that. But you hope your passenger gets to his meeting on time so you can get a decent tip. Right now he seems to be about to speak to you. You wonder if he's going to tell you to hurry up so he won't be late.

Commuter Train

Passenger

You, Darroll Porter, ride the Sutton Island Commuter Line every day to work. You could drive to work, but then you would have to contend with the rush hour traffic twice a day, not to mention the parking problem once you got to work. Besides, it's relaxing to take a commuter train. You can read the paper, chat with one or two friends who take the same train, and view the scenery--including the people getting frustrated driving through the morning or evening rush hour traffic! However, the rest room on the train you ride is often dirty and sometimes runs out of supplies. Since your trip takes 45 minutes, there are times when you would like to use it, because you have another 25-minute drive home from the commuter train station, and you've taken 15 minutes to get to the train from your place of work. Last night you had a headache on the way home from work and went into the rest room to take some aspirin, but you found no paper cups and the sink was filthy. Your headache promptly turned into a migraine! Since the train engineer is hard to find and probably had nothing to do with keeping the rest rooms clean and well stocked, you decided to talk to a train official. Today, you left work early and walked into the office of the train supervisor at the downtown station. She has just ushered you in and offered you a seat. What do you say?

Train supervisor

You, Alice O'Connor, are the supervisor at the downtown commuter train terminal. Your job involves you in supervising all the commuter train runs for the city and making sure they run on time and operate efficiently. However, you are caught in something of a bind. Inflation has made it very difficult to keep from losing money in this business--in fact, the company lost five million dollars last year. Labor salaries have increased and the cost of maintaining the tracks and trains has also gone way up. But you're not responsible for setting fares, so you have no control over profits from that angle. All you can do is try to keep commuters happy and keep down the expense of operating the trains. However, this has led to some problems. You've tried to save money by cutting back on the station staff responsible for cleaning up and servicing the trains when they come into the stations. You know this makes for poorer service, but how else can you make ends meet? Besides, some of these commuters just wanted to be treated like kings all for a 30- or 40-minute ride every day. After all, you're not running an airline or a luxury ship. For a trip of less than an hour, any passenger ought to be able to put up with a little inconvenience. How would these commuters feel if they had to drive to work in the traffic every day?

Right now, an angry-looking man is in your office and you wonder if he's one of these "treat-me-like-a-king-or-else" commuters who's going to complain about the service.

Additional role profiles can be created by varying the mode of travel involved; the complaint being registered; the authority and position of the transportation official to whom the complaint is made; and the constraints under which the transportation official is operating.

ACTIVITY #39

Supplementary Activity Approximate Class Time: 1-2 periods

Capsule Activity Description: Students complete a story in which they are forced to consider what public transportation services they would provide in their community to reduce the use of cars.

Goal:

To know some methods by which the public might be motivated to create a better balance between automobile and public transportation use.

Concepts Treated:

- Some emergency measures might be appropriate in normal times to motivate people to balance their use of automobiles and patronage of public transportation.
- There are steps the government could take that might motivate the public to balance its use of automobiles and public transportation.
- Increasing the public's use of public transportation may require additional and better public transportation services and more carpooling.
- Curtailing the use of the automobile would require substantial adjustments in public transportation services and personal mobility.

ACTIVITY

Students write endings to the story beginning provided on Spirit Master #11. (You can adapt the story first to make it appropriate to the students' community.) After completing endings, break the class into small groups where papers are exchanged, read, and compared. Each group discusses the public transportation and carpooling alternatives suggested in the various papers and tries to reach a consensus on which ones would be best for their community and why. Students then discuss whether it would be in the community's best interest to develop these public transportation and carpooling services even without the crisis described at the beginning of the story and why. If students feel these public transportation and carpooling alternatives should be available even without the crises, they can discuss why these facilities have not as yet been provided. Finally, students can compare which groups (for example, handicapped, poor) in the community would not be adequately serviced by the new public transportation facilities and carpooling programs and why these groups were left with inadequate travel opportunities.

Evaluation Method:

Students describe some of the methods by which the public might be motivated to create a better balance between automobile and public transportation use in role-played dialogues between a "town transportation official" and a "news reporter."

ACTIVITY #40

Supplementary Activity   Approximate Class Time: ½-1 period

Capsule Activity Description: Teacher and students evaluate class concerns about and attitudes toward public transportation.

ACTIVITY

This activity is designed to enable you and your students to learn what aspects of public transportation they are interested in studying. If you have the flexibility to develop a unit on public transportation that is responsive to your students' expressed interests, you can implement this activity and then select for use activities that meet the concerns your students have expressed.

Student Attitude Questionnaire

Do you have any problems in your community with any of the following aspects of public transportation? (Check all that apply.)

Aspect of Public Transportation	*No Problems*	*Some Problems*	*Many Problems*
Enough buses, trains, subways, ferries, light rail (trolleys), or taxis in the community where you live			
Crime on the buses			
Pollution from buses			
Traffic accidents involving buses			
Costs of using the buses			
Slowness of travel by bus			
Finding seats on buses			
Crowding on buses			
Poor air conditioning or heating on buses			
Dangerous driving practices by bus drivers			
Dirty buses			
Late arrival or departure times of buses			
Discourteous language or actions of bus drivers			
Lack of opportunities to join carpools			

How much difference in the following ways would it make to you if there were better public transportation service in your neighborhood? (Check all that apply.)

Reason	*No Difference*	*Some Difference*	*Big Difference*
Your ability to get a job in another area of the community			
Your ability to get to work faster and more safely			
Your ability to go to the movies, parks, visit friends			
Your ability to secure basic necessities, such as food and medical care			
Your ability to travel more cheaply than by car			
Your ability to travel more enjoyably than by car			

The best ways to provide better public transportation are

1. By citizens demanding better service from public transportation companies ____________
2. By educating the public to use public transportation more ____________
3. With more government money ____________
4. By electing more politicians who are dedicated to mass transit ____________
5. Through citizen involvement in transportation planning ____________
6. Other (specify:) ____

____

____

____

A course on public transportation could help me most if it

Dealt with the following specific public transportation topics (specify:)

____

____

____

____

____

____

____

Let me study what I want, but assisted me to do so effectively by (specify:)

____

____

____

____

____

Used the following learning methods (check all that apply):

- Art ___
- Audiovisual ___
- Debates ___
- Discussions ___
  - Small group ___
  - Class ___
- Drama ___
  - Role-plays ___
  - Games ___
- Field trips ___
- Independent study ___
- Interviews ___
- Lectures ___
- Polls ___
- Reading ___
- Research ___
- Teaching peers ___
- Volunteer work ___
- Writing ___

ACTIVITY #41

Supplementary Activity   Approximate Class Time: ½-1 period

Capsule Activity Description: Students evaluate the course.

ACTIVITY

Students answer orally or write responses to questions designed to help reveal to them and to the teacher whether the course objectives were achieved and, insofar as they were not, how they can be achieved in the future.

Sample questions appear on the next page.

After answering the questions, the class can discuss in small groups or as a class the value of the course and how to improve it based on the students' written responses.

Course Evaluation Questions for Students

1. What did you gain from this course? (Check as many or few of the following as apply.)

_____ Only a review of well known facts
_____ A few new useful facts
_____ Much new useful information
_____ Better understanding of ______________________________
(fill in what course covered)
_____ Desire to go more deeply into study of ______________
(fill in topics covered)
_____ Some new and important attitudes toward ______________
(fill in topics covered)
_____ Changes in my personal travel behavior or my reactions to other people's travel behavior
_____ Other (explain briefly) ______________________________

2. From which parts of the course do you feel you learned well?

_____ Preparation of homework assignments
_____ Individual reading
_____ Oral reports
_____ Written reports
_____ Lectures
_____ Role-plays
_____ Games
_____ Individual projects
_____ Guest speakers
_____ Debates
_____ Small group discussions
_____ Field trips
_____ Audiovisual aids
_____ Other activities (list them)

3. What is your opinion concerning the amount of time spent studying public transportation?

_____ Too much _____ Too little _____ About right

4. What questions or topics had you hoped would be included in the study but were not?

5. What suggestions do you have for improving the course?

6. Do you feel that there were unnecessary repetitions in material covered in this class and material covered in another class or classes? If so, what material?

7. What do you think are the greatest needs in public transportation?

8. After having considered very carefully what you have learned during this course, have you changed your mind concerning your personal use of vehicles and transportation facilities? If so, how?

ACTIVITY #42

Supplementary Activity   Approximate Class Time: ½-1 period

Capsule Activity Description: Students answer oral or written questions on public transportation.

ACTIVITY

A series of questions on various aspects of public transportation follows. You will want to select and use only those questions that treat aspects of public transportation your students have studied.

You can also have your students develop their own questions individually or in small groups.

Each activity in the Manual also has its own evaluation method. You can use the following quiz questions to supplement or replace those evaluations.

1. Choose one mode of local public transportation and discuss what it does for your community. Keep in mind safety, convenience, cost, and comfort.

2. Discuss the differences (if there are any) between public transportation vehicles and other types of vehicles.

3. Using a map of your community, plan and draw routes for a mode of public transportation to serve the community. Defend your plans by explaining your reasons for your route placement.

4. Draw the "perfect" public transportation vehicle. Describe its features and benefits.

5. What are the advantages and disadvantages of public transportation? of carpools?

6. Discuss the reasons people do not use public transportation. Suggest ways public transportation could increase ridership and devise a plan to do so. Suggest a plan for increasing the use of carpools.

7. You are on the subway going home after a very difficult day at work. The weather outside is hot and it is even hotter inside the subway car. People are jammed in like sardines. The car has just stopped at the Smith Street Station, which is the stop just outside the tunnel leading to your station. Some people got off but more seemed to get on. The subway starts up and is about to enter the tunnel when the brakes are suddenly applied and there is a terrific crash. People seem to be falling everywhere. You suddenly find yourself on the floor but don't seem to be hurt. You hear people shouting and crying. What do you do now?

8. Choose one group of people (elderly, children, handicapped, or some other group of your choosing) and describe problems they often have using public transportation, ways they can cope with those problems, and what public transportation can do to alleviate those problems.

9. Compare the good and bad points of trolleys, buses, taxis, and automobiles. Build a case for using each mode; then determine which one is most practical for travel and the environment in your community.

10. What are some of the personal actions citizens can take to promote public transportation? Do you feel citizens should try to persuade each other to use public transportation and carpools? Why or why not?

11. What kinds of poor service would you feel justify your complaining to a public transportation company?

12. How would you go about complaining to a public transportation company about its poor or dangerous service?

13. When a citizen complains to a public transportation authority about poor service, why might the authority be unable or unwilling to solve the problem or redress the grievance?

14. What do most people do when they feel they have a legitimate complaint against a public transportation company? Why do they do what they do? If they do nothing, why don't they take any action?

15. In what ways can increasing use of public transportation, decreasing automobile travel, and making more efficient use of the automobile help the environment?

16. What effects can the increased availability of public transportation have on the work and residential patterns of citizens?

17. There are several social and political actions citizens can take to promote public transportation. Describe one such action and

    a) Indicate whether the action would be effective, and why.

    b) Outline how, exactly, it should be carried out.

c) Indicate what effects, if any, the increase in public transportation services would probably have on the community.

18. If there were a transportation planning effort going on in your community, how would you find out about it? How would you get involved?

19. There are often obstacles that make it difficult for the average citizen to get involved in social or political action to promote public transportation. What are some of these obstacles? Discuss whether and how they could be overcome.

20. Some people feel that if citizens were better informed about the importance and availability of public transportation they would promote public transportation. Do you agree that an education program would be helpful in encouraging people to use public transportation more and private automobiles less or more efficiently? If you do, who should do the educating and what, exactly, should the public be taught or informed about?

21. What are some of the actions the government has taken to promote public transportation and carpooling? How effective have these actions been? Are there other actions the government should take?

22. What role should the government take in promoting public transportation and carpooling? For example, should the government discourage citizens from using automobiles by making it more expensive for them to do so?

23. What are some of the methods by which the government could encourage people to shift from automobile travel to public transportation, more efficient use of the automobile, and carpooling? Which of these methods, if any, should the government adopt? Why?

24. What are some of the methods by which the government could make it so expensive to commute by automobile that people would make more efficient use of the automobile and would use public transportation more frequently? Which of these methods, if any, should the government adopt? Why?

25. What are some of the reasons some Americans are so fascinated with cars and seem to be unwilling or reluctant to use them less?

26. Pick one public transportation mode in your community. If you were given $500,000 to spend improving or expanding this mode, how would you spend the money? Be specific. Explain your reasons for how you would spend it.

27. How easily can the public transportation system in your community be used by the handicapped (elderly, children, poor, minorities, etc.)? If it cannot be easily used, how could it be made so? Should tax money be spent making public transportation easily used by the handicapped (elderly, children, poor, minorities, etc.)? Why or why not?

28. What are some of the ways in which buses could operate more quickly and efficiently? Which of these ways could be implemented in your community?

29. What public transportation does your community need? Do some neighborhoods have greater needs than others? Why?

30. Who makes the decisions in your community (or in most communities) about what public transportation services are improved or built? Who makes the decisions about fares, safety, and cleanliness for each of the public transportation modes in your community? Who should make these decisions? What influence does the public have in these decisions? What influence do Federal funds and programs have on these decisions, if any?

31. How can vandalism against public transportation vehicles be prevented--or can't it be? Select a specific example of vandalism, one that has occurred in your community or an imaginary one, and explain what should be done with the offenders and what can be done to prevent its happening again.

BIBLIOGRAPHY

The Bibliography contains educational materials for teachers and students. It consists of selected

- Teacher materials
- Student materials--many of which teachers can profitably read, too
- Background publications and books for teachers on public transportation and on related topics covered in the activities in this Manual
- Periodicals.

The individual entries in the teacher and student sections are presented in the following format:

** *Title of Work*, author, date of publication. Number of pages or list of materials. Price.

Type of Material Description of material with evaluation of material's quality (except for supplementary materials) and relevance for public transportation education.

Source from which material may be obtained.*

For purposes of convenience, the teacher and student materials have been rated by the designation of stars next to each work's title (see sample above). The stars represent the following evaluation:

No stars: Material is useful, but fair
(*) One star: Material is good
(**) Two stars: Material is very good
(***) Three stars: Material is excellent

It should be kept in mind that these evaluations are estimations of the material's *quality and relevance.*** As such, the absence of a teaching material or a low rating does not per see indicate the material is poor. It may be excellent but simply not very relevant to this Manual's content. In addition, any absences may be due to the authors' oversight.

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*Allow ten weeks for delivery of items ordered from the U.S. Government Printing Office.

**A complete discussion of the criteria used to evaluate the materials may be found at the end of the Bibliography.

At the end of the Bibliography is a list of government agencies that can be contacted for further information about public transportation.

*** *The Voice of the Transportation Consumer: Executive Summary,* 1975. 108 pages. $5.25.

Pamphlet Report

This is a comprehensive and forthright "Report to the Secretary of Transportation on Nationwide Consumer Public Hearings Conducted by the (Department of Transportation) Office of Consumer Affairs during 1971-1974." Presents in summary but highly readable fashion the results of 54 hearings conducted in 34 cities and towns. The report analyzes 1280 complete questionnaires received at the hearings. The report covers all aspects of transportation but indirectly treats public transportation. A full report of the hearing results is also available and runs to 656 pages.

National Technical Information Service
5285 Port Royal Road
Springfield, Virginia 22151
Catalog No. PB 241764

* *Social and Economic Effects of Highways,* 1974. 180 pages. Free.

Report

A report of the positive and negative effects that modern highways have on individuals, communities, and regions. Report is somewhat technical and requires close attention.

U.S. Department of Transportation
Federal Highway Administration
Office of Program and Policy Planning
400 7th and D Streets, S.W.
Washington, D.C. 20590

** *Carpooling Case Studies,* 1974. 31 pages. Free.

Report

Two articles that document successful carpool matching experiments, including maps and citizen questionnaires.

U.S. Department of Transportation
Federal Highway Administration
Urban Planning Division
400 7th and D Streets, S.W.
Washington, D.C. 20590

** *Buspools*, 1974. 18 pages. Free

Report

Description of buspools, with a discussion of the criteria for buspool opportunities.

U.S. Department of Transportation
Federal Highway Administration
Urban Planning Division
400 7th and D Streets, S.W.
Washington, D.C. 20590

** *The 3M Commute-a-Van Program: Status Report*, 1974.

Report

Description of a system whereby the 3M Company furnishes a 12-passenger van to an employee willing to take at least eight other employees to and from work.

U.S. Department of Transportation
Federal Highway Administration
400 7th and D Street, S.W.
Washington, D.C. 20590

* *Transportation and the Rural Community*, 1974. 19 pages.

Pamphlet
Report

Summary of conference on rural transportation. Report treats present state of rural transit, the relationship between transportation and rural development, and the potential of new technology as a solution to rural problems.

National Technical Information Service
5285 Port Royal Road
Springfield, Virginia 22151

*** *Improving Urban Mobility*, 1975. 30 pages. Free.

Pamphlet

Highly creative discussion of ways in which bus service can be improved by manipulating the traffic environment and bus system. Discussion focuses on special bus lanes and streets, improving traffic management, improved scheduling and routing, improved fare collection methods, and alternate vehicle types.

Federal Highway Administration
Urban Planning Division
Transit and Traffic Engineering Branch
Washington, D.C. 20590

** *Access for All: Transportation and Urban Growth*, 1975. 176 pages. $2.45.

Paperback

Stimulating discussion of how transportation availability influences residential, work, and recreational patterns. Thesis is that the introduction of the automobile has resulted in unequal access to transportation and discouraged contact among different socioeconomic groups in society. Book traces the history of public transportation in America. Full of revealing insights into the nature of public transportation, but some readers may find some of the reading heavy and the illustrations (e.g., Boston) parochial.

Penguin Books
7110 Ambassador Road
Baltimore, Maryland 21207

** *The Accessible City*, by Wilfred Owen, 1972. 150 pages. $2.95.

Paperback

Discussion of big-city transportation problems, their nature, and how they can be solved. Book provides considerable basic factual information on the worldwide and national urban transportation crisis. Main thesis is that transportation must be planned in the context of more important objectives, such as the provision of housing, health, employment, and recreation opportunities.

The Brookings Institution
1775 Massachusetts Avenue
Washington, D.C. 20036

* *Urban Transportation Needs*, 1972. 56 pages.

Report

Series of eight lectures on various transportation topics. Two are relevant: one on urban transportation needs, an overview of big city transportation problems, and a second on political and institutional factors, financing, and time lag.

Center for New York City Affairs
New School for Social Research
72 Fifth Avenue
New York, New York 10011

** *Transportation Alternatives*, 1972. 55 pages plus appendices.

Report

Study of people's attitudes toward personal use of modes of transportation other than cars. Respondents in four cities, Chicago, New York, Washington, D.C., and Los Angeles, were questioned about their attitudes toward use of transportation modes other than cars in their personal lives--e.g., under what circumstances would they use mass transit to commute to work rather than their car? Interesting study that concentrates on environmental issues of excessive car use. Concludes that people will make minor accomodations to environmental issues (e.g., pay up to $200 for pollution controls on their cars) but will not give up use of cars to any appreciable extent despite financial and other inducements to use other means of transportation.

Student Competitions on Relevant Engineering (SCORE)
c/o Professor J.H. Sonunu
Tufts University
Medford, Massachusetts 02155

*** *Transpo Topics for Consumers* (not dated). 8 pages. Free

Periodical

Useful quarterly newsletter on a variety of transportation subjects. Discusses such topics as legislation, local transportation programs, new publications, and teaching materials.

Department of Transportation
Office of the Secretary
Office of Consumer Affairs
400 Seventh Street, S.W.
Washington, D.C. 20590

*** *Rites of Way: The Politics of Transportation in Boston and the U.S. City*, by Alan Lupo, Frank Colcord, and Edmund P. Fowler, 1971. 294 pages. $3.95.

Paperback

Detailed account of how community opposition in metropolitan Boston forced the state and local governments and quasi-independent commissions to abandon plans to construct freeways in and around the city. Book also discusses who makes transportation decisions in major U.S. cities, the politics of such decisions, and the elements that should be included in comprehensive regional transportation planning. While a unique and fascinating document of one community's struggle and strategies to be heard, some readers may find the level of detail wearing.

Little Brown and Company
34 Beacon Street
Boston, Massachusetts

* *The Urban Transportation Problem*, by J.R. Meyer et al., 1966. 427 pages. $4.50.

Paperback Textbook

In-depth survey of urban transportation issues. A standard treatment of such issues as recent trends in urban location, highway financing, line-haul systems, and costing procedures. Although generally accessible to the lay reader, several sections require a knowledge of statistics to fully understand.

Harvard University Press
79 Garden Street
Cambridge, Massachusetts 02138

** *Automotive Fuels and Air Pollution*, 1971. 32 pages. 40¢.

Pamphlet

Detailed account for the layman of automobile pollutants, their effects, and what can be done to eliminate or reduce them.

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

Flyer

* *The Noise Control Act of 1972: Highlights*, 1972. 4 pages. Free.

Provides background to the legislation and the major provisions of the Noise Control Act.

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

Transportation Noise and its Control, 1972. 27 pages. 70¢.

Pamphlet

Informative and not too technical discussion of the nature of noise pollution, the decibel unit of measurement, the extent of noise caused by cars, trucks, planes, and rapid transit, and possibilities for reducing or eliminating transportation noises.

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402
Stock Number 50000-0057

** *Transportation Noise Pollution: Control and Abatement,* 1970. 190 pages. $6.00.

Pamphlet Very informative, in places technical discussion of the causes of transportation noise pollution and what can be done about them. Excellent charts, graphs, and cartoons.

National Technical Information Service
5285 Port Royal Road
Springfield, Virginia 22151
Stock Number N71-15557

*** *Getting Around: People and the City,* 1974. 48 pages. $1.29.

Pamphlet Informative, thought-provoking case studies and discussions on urban transportation, including commuting, rapid transit, citizen action, dial-a-bus, mass transit, banning cars, and the Bay Area Rapid Transit (BART) in San Francisco. Discussion questions are provided. Well illustrated; photographs.

Scott, Foresman and Company
1900 Eastlake Street
Glenview, Illinois 60025

** *Health Effects of Environmental Pollution,* 1973. 20 pages. 30¢.

Pamphlet Highly useful overview of the effects of air, water, and noise pollution on human health.

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

* *Air Pollution: The World's Exhaust,* 1971. 62 pages. $1.00.

Book Overview of the air pollution problem, with discussions of smog, what air pollution is, automobile pollution, health effects, effects on the weather, and who should be responsible for preventing air pollution. Approach is to raise questions rather than present solutions.

Pendulum Press, Inc.
The Academic Building
Saw Mill Road
West Haven, Connecticut 06516

*** *A Citizen's Guide to Clean Air*, 1972. 95 pages. Free.

Pamphlet

An extremely useful, detailed account of the clean air laws and how citizens can advocate and plan for the control of air pollution. One chapter deals with auto emission controls, another with the citizen's legal rights, and a third with the citizen's role in policy making.

The Conservation Foundation
1717 Massachusetts Avenue, N.W.
Washington, D.C. 20036

* *Citizen Action Can Get Results*, 1972. 20¢

Pamphlet

Three somewhat superficial case studies of how community political action successfully reduced environmental pollution. One case study on air pollution indirectly involves auto pollution. However, the case studies are useful as examples of citizen action, even though they are not directly related to transportation's environmental effects.

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402
Stock Number 5500-0070

* *In Productive Harmony: Environmental Impact Statements Broaden the Nation's Perspectives*, 1972. 13 pages. Single copies free.

Pamphlet

Describes the provisions of the National Environmental Policy Act of 1970 and the nature of an environmental impact statement, including the Environmental Protection Agency's role in a statement's development.

U.S. Environmental Protection Agency
Office of Public Affairs
Washington, D.C. 20460

* *Citizen Participation in Transportation Planning*, 1973. 142 pages. $5.00.

Booklet

Papers from a conference on the Boston Transportation Planning Review which consider issues of citizen participation well beyond the Boston experience. Papers include discussion of the politics of transportation planning, nonwhite viewpoints, rural citizen involvement, and ecological concerns in transportation planning.

Highway Research Board
National Academy of Sciences
2101 Constitution Avenue, N.W.
Washington, D.C. 20418

*** *Getting Involved in Transportation*, 1976. 12 pages. Single copies free.

Pamphlet Describes the nature of environmental impact statements and offers specific suggestions for how the public can become involved in their formulation and in transportation planning in general.

U.S. Department of Transportation
Office of the Secretary
Office of Environment, Safety & Consumer Affairs
400 7th and D Streets, S.W.
Washington, D.C. 20590

* *Rethinking Your Automobile*, 1973. 6 pages. Free.

Flyer Brief discussion of consumer's role in reducing use of cars in view of the energy shortage.

Office of Public Affairs
U.S. Environmental Protection Agency
Waterside Mall
Washington, D.C. 20460

** *Ridesharing: A Better Way to Use Cars and Highways* (not dated). 10 pages. Free.

Flyer Discussion of the advantages of carpooling for the environment and energy conservation, how carpooling reduces transportation costs, and how to promote carpooling.

U.S. Department of Transportation
Federal Highway Administration
400 7th and D Streets
Washington, D.C. 20590

*** *Transit Fact Book*, 1976. 47 pages. Free.

Booklet Gives brief history of public transportation and provides various statistics on public transportation usage and financing from 1900 to the present.

American Public Transit Association
1100 17th Street, N.W. Suite 1200
Washington, D.C. 20036

* *Innovation in Public Transportation. A Directory of Research, Development and Demonstration Projects*, 1975. $1.85.

Directory

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

Student Materials

* *Noise and You*, 1970. 15 pages. 25¢.

Pamphlet Brief overview of the nature of noise and the dangers of too much and too loud noise. Not tied in specifically with transportation noise. Informative, but in a cartoon format that some students may find condescending or childish.

Channing L. Bete Co., Inc.
45 Federal Street
Greenfield, Massachusetts 03101

** *Don't Leave It All to the Experts: The Citizen's Role in Environmental Decision Making*, 1972. 19 pages. Free.

Pamphlet Identification of methods by which citizens can protect the environment, including becoming informed, knowing the law, lobbying, fighting for funds, and knowing your rights.

Office of Public Affairs
U.S. Environmental Protection Agency
Waterside Mall
Washington, D.C. 20460

Transportation Consumer's Guide to Programs and Services of the United States Department of Transportation, 1974. 36 pages. Free

Pamphlet Descriptions of the structure and functions of the several agencies within the Department of Transportation, along with a list of consumer publications each agency has available.

Department of Transportation
Office of Consumer Affairs
400 South Street, S.W.
Washington, D.C. 20590

BACKGROUND LITERATURE FOR TEACHERS ON PUBLIC TRANSPORTATION AND RELATED TOPICS

Appleyard, Donald, et al., *The View from the Road* (MIT Press: Cambridge, Massachusetts, 1964).

Buel, Ronald A., *Dead End: The Automobile in Mass Transportation* (Prentice-Hall: Englewood Cliffs, New Jersey).

Department of Transportation, *Conference on Transportation and Human Needs in the '70's* (National Technical Information Service: Springfield, Virginia: Catalog No. PB224925).

Farris and McElhiney, *Modern Transportation: Selected Readings, Second Edition* (Houghton Mifflin: Boston, Massachusetts, 1973).

Howsan, Henry Frederick, *The Rapid Transit Railways of the World* (Allan & Bacon: London, 1971).

Kraft, Gerald et al., *Free Transit* (Heath: Lexington, Massachusetts, 1970).

Lang, A. et al., *Urban Rail Transit* (MIT Press: Cambridge, Massachusetts, 1964).

Levin, Melvin and Norman Abend, *Bureaucrats in Collision, Case Studies in Area Transportation Planning* (MIT Press: Cambridge, Massachusetts, 1971).

Meyer, J.R. et al., *The Urban Transportation Problem* (Harvard University Press: Cambridge, Massachusetts, 1965).

Murray, James J. (ed.), *Urban and Regional Ground Transportation* (Planning-Transport Associates, Inc.: Durham, North Carolina, 1973).

Sampson and Farris, *Domestic Transportation: Practice, Theory and Policy, Second Edition* (Houghton Mifflin: Boston, Massachusetts, 1971).

Smerk, George M. (ed.), *Readings in Urban Transportation* (Indiana University Press: Bloomington, Indiana, 1968).

Stone, Tabor R., *Beyond the Automobile* (Prentice-Hall: New York, 1971).

Tass, Leslie, *Modern Rapid Transit* (Carlton Press: New York, 1971).

Transportation for the Handicapped (Center for Transportation Studies, Eagleton Institute of Politics: Rutgers University, New Jersey, 1969).

U.S. Department of Health, Education and Welfare, *Transportation and Aging: Selected Issues* (Washington, D.C., 1970).

U.S. Department of Health, Education and Welfare, *Transportation for the Elderly: The State of the Art* (Washington, D.C., 1975).

U.S. Department of Transportation, *Travel Barriers* (National Technical Information Service: Springfield, Virginia, 1970). PB187327.

U.S. Department of Transportation, *Conference on Transportation and Human Needs in the 70's* (National Technical Information Service: Springfield, Virginia, 1972). PB224925.

PERIODICALS

In addition to the periodicals listed below, teachers and students can also consult in libraries the *Reader's Guide to Periodical Literature* for past articles on public transportation.

Highway and Urban Mass Transportation
Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

High Speed Ground Transportation Journal
International Society for Terrain-Vehicle Systems
Box 4824, Duke Station
Durham, North Carolina 27706

IRT Newsletter
Institute for Rapid Transit
Suite 508, 1612 K St., N.W.
Washington, D.C. 20006

Mass Transit
538 National Press Building
Washington, D.C. 20045

Transit Journal
The American Public Transit Association
1100 17th Street, N.W.
Washington, D.C. 20036

Transportation U.S.A.
U.S. Department of Transportation
Office of Public Affairs
400 7th and D Streets, S.W.
Washington, D.C. 20590

Transpo Topics for Consumers
Department of Transportation
Office of the Secretary
Washington, D.C. 20590

GOVERNMENT INFORMATION AGENCIES

For further information about transportation consumer issues, citizens can contact the appropriate U.S. Department of Transportation or other government agency listed below:

Agency Name and Address	*Telephone Number*[a]
U.S. Department of Transportation 400 Seventh Street, S.W. Washington, D.C. 20590	Office of Public Affairs 202/426-4321
Office of the Secretary of Transportation	Office of Consumer Affairs 202/426-4520
Federal Highway Administration (address above)	Public Affairs 202/426-0648
Urban Mass Transportation Administration (address above)	Public Affairs 202/426-4043
Environmental Protection Agency 404 M Street, S.W. Washington, D.C. 20460	Public Information 202/755-0890

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[a] For specific information consumers may be referred to other numbers.

GLOSSARY

Articulated bus is two buses joined together to allow a shorter turning radius on city streets. It needs only one driver and can carry 70 people. These buses have been used in Europe for a number of years but they are just now being added to the American public transportation network.

Cable car is a railway vehicle which operates in street traffic. It is propelled by moving cables located below the street surface and powered by engines or motors at a central location not on board the vehicle.

Demand-responsive vehicle is relatively new in American transportation. It has the features of a taxi and a bus and usually looks like a van. People call for service like they do for a taxi, but they pay lower fares and may ride with several other people going to a similar destination.

Double decker bus is a rubber-tired self-propelled vehicle which has two levels enabling it to carry twice as many passengers. It has been used extensively in Europe and is now being reintroduced to American public transportation.

Heavy rail (subway/elevated) is a subway-type railway vehicle constructed on high-level platform stations.

Hydrofoil is a boat which travels on the surface of the water rather than in the water. This enables it to move much faster than ordinary boats.

Light rail (trolley) is the term usually given to the streetcar-type railway vehicle. Light rail is constructed and operates on city streets.

Public transportation refers to all modes of travel which operate within a community (as opposed to modes operating between cities and towns) and which involve vehicles which are publicly owned (e.g., by the government) or owned by private business (e.g., a taxi company) (as opposed to vehicles which are owned by private citizens, including automobiles, bicycles, and recreational vehicles). Public transportation also includes the facilities (e.g., bus shop shelters and ferry docks) which serve public transportation vehicles and passengers.

BIBLIOGRAPHY EVALUATION CRITERIA

All teacher and student materials that were located were evaluated along two dimensions: *quality* and *relevance*. Quality was defined to include the following components:

- Provision of creative and detailed classroom activities or learning experiences that go beyond the one or two sentence "have the students do *x, y, z*" suggestions
- Development of decision-making skills that may be transferable to other consumer issues
- Attention to affective educational approaches and objectives, not merely cognitive ones
- Emphasis on student initiative and involvement in classroom activities and in the planning of those activities.
- A concern-centered approach that predicates learning on the assessment of student concerns and the development and use of classroom activities that initially deal with those concerns
- The provision of a lucid conceptual framework of public transportation education by which teachers could grasp the field and the interrelationships of its components and by which teachers can develop additional activities and units of their own
- A modular, flexible approach that enables teachers to develop activities and units tailored to the needs of their particular students and community
- Provision of accurate factual information
- A nonmoralistic, noninjunctive approach
- Stress on the needs and problems of minority groups
- An interdisciplinary approach to consumer education

Few curriculum materials combined all these quality ingredients. Many included none or only a few. In some borderline cases where a teaching material contained some quality ingredients, the authors made a subjective evaluation on whether the material contained *enough* of these elements to warrant referencing in the Manual.

To be considered relevant, a teaching material had to deal in a significant way with public transportation from the point of view of or useful to a consumer. Teaching materials were excluded from the Manual when their relevance was extremely limited or nonexistent because

- Only a small section of the material dealt with public transportation issues. However, such materials were included when a subsection was of high caliber, dealt with an important aspect of public transportation not covered elsewhere, or was part of an easily accessible and inexpensive unit.
- The material was extremely specific--it dealt with too narrow an aspect of an issue to be useful to teachers or students except in highly specialized courses or units.
- The material was designed for a highly specialized audience.
- The material was oriented strictly toward career education.
- The material was outdated.
- The material contained information that applied primarily or significantly to a local situation.
- The material was not distributed out of state.

SPIRIT MASTER #1: FOR USE WITH ACTIVITIES #4 AND #13

CHECK SHEET

Type of Public Transportation *Features*	*Bus*	*Train*	*Subway*	*Taxi*	*Ferry*	*Light Rail (Trolley)*	*Carpool*
1. Convenience							
Hours							
Departure points							
Destination (stops)							
2. Safety							
Crime							
Traffic accidents							
Pollution							
3. Expense							
High or low							
Compared to automobile							
Compared to other pt[a]							
4. Speed							
Frequency of runs							
Absolute travel speed							
Speed relative to car							
Speed relative to other pt[a]							
5. Comfort							
Seating							
Crowding							
Air conditioning/heat							
6. Privacy							
During rush hour							
Off hour							
7. Social benefits							
Energy use							
Air/noise pollution							

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[a] pt = public transportation

SPIRIT MASTER #2: FOR USE WITH ACTIVITIES #6 AND #27

Sample Passenger Complaint Letter

Ms. Rachel Smith
Director
Metropolitan Transportation Authority
400 7th and D Streets
Transit, Pennsylvania 12345

Dear Ms. Smith:

On April 1, 1975 I took the 12:15 P.M. Washington Street bus from Arnold Station to Benedict Street. When I got up to leave the bus, I was the only passenger getting off at the Benedict Street stop. The bus driver opened the door for me but did not come to a complete stop. I did not want to get off the bus while it was moving and waited for him to bring it to a complete stop. He wouldn't do that, however, and just kept going until it was too late to get off at all at Benedict Street. I complained to him, but he just told me to stop slowing him up. At the next stop, he let me off, coming to a complete stop only because there was a red light.

I find this behavior dangerous in the extreme and am reporting it to you because I have seen it happen at other times. I do not know the driver's name, but the bus was number 54321. I am sure you can determine from the date, time of day, and bus number who was driving the vehicle.

I am sure you will take prompt action to ensure that drivers do not repeat this practice, and I look forward to hearing about your remedies.

Sincerely,

Samuel Jones

cc: Department of Transportation
Senator John Jones

Sample Agency Letter of Response to a Passenger Complaint Letter

Mr. Samuel Jones
429 Pleasant Street
Carlisle, Massachusetts 23456

Dear Mr. Jones:

Thank you for expressing concern about the failure of one of our bus drivers come to a complete stop when you were waiting to exit the bus at the Benedict Street stop. As I am sure you know, it is an MTA rule as well as a traffic safety law that all buses come to a complete stop before discharging or taking on passengers.

On occasion, a bus driver who has been delayed unavoidably on a trip and is anxious to provide prompt and timely service to passengers along the route attempts to make up for lost time by this dangerous practice of failing to stop completely. I am not trying to excuse the behavior, merely to explain it.

I have already located the driver in question and spoken to him presonally about the problem. He assures me that he will not fail to stop again. Should you find that this practice continues, do not hesitate to let me know again. It is helpful for us to get this kind of information from the public so that we may provide the best possible service.

Sincerely,

Rachel Smith
Director
Metropolitan Transportation Authority

SPIRIT MASTER #3: FOR USE WITH ACTIVITY #17

The Rapid Transit Emergency Story

George and his sister Jane were riding the new rapid transit train to get downtown. Neither George nor Jane had ever been on the train without their parents before, but this time George and Jane were in charge of the trip. They were taking their cousins, Michael and Liz, to show them the sights of the city. George was riding with Michael and Jane with Liz, pointing out the sights along the way. "You had better do a lot of looking right now," George said, "because in a few minutes we're going to go into the tunnel and then we won't be able to see anything."

"Is it completely dark when we go through the tunnel?" asked Mike. He seemed a little scared at the idea of travelling through a tunnel. But George reassured him. "No, no, there are lights in this train, and there are a few lights in the tunnel, too. But there is nothing to see--just the walls of the tunnel and a few cables. Sometimes you might see a red or green signal light flash by, but that's all."

"Do you go on this train often?" Liz asked Jane. She seemed very impressed with the shiny new train and how fast it was going and also that Jane and George were permitted to go on it alone.

"No, we've been on it a few times. It hasn't been running that long, actually. The system was just opened last year. George and Dad and I went a couple of times to get to a ball game, and once we went with my mother to go shopping."

"You've never been on it alone before?" asked Jane, quite surprised.

"No, my parents thought it would be more fun for all of us if we went alone. They told us where to get off--at James Polk Square--and they'll meet us there. They are driving in, while we're taking the train."

Just then George turned around. "Do you know how many more stations before we get to Polk Square?" "Three or four, I'm not really sure. I thought you knew, George." Jane sounded just a little anxious.

"Of course I know," George said. "I wanted to know if *you* knew. Besides, do you see that list of stations that is posted up there? We've just left the Brookville station and you can read there are four more stations to go: 18th Street, Union Station, Alabama Avenue, and Polk Square."

"Just two more stations," George announced. "Alabama Avenue and then Polk Square. That's where we'll get off."

Just then the train slowed down. "Are we at Alabama Avenue already?" Mike asked; "I didn't hear him announce the station. I thought he was supposed to do that."

"He is, " Jane said. "I wonder why he didn't." The train slowed more. "Maybe he isn't slowing for the station. Maybe he has a red signal ahead," George suggested. "The train has to stop for a red signal."

The train came to a complete stop, in the tunnel; there was no station visible. In fact, not much could be seen at all. The lights went out and the dim emergency lights came on. For quite a while the train remained stopped. People talked in low voices, but remained sitting. Finally, after about five minutes some voices were beginning to make themselves heard. "What's happening" "Why aren't we moving?" "It's getting hot in here!" "Where's the conductor?"

Just then the conductor came on over the public address system. "Folks, we're stopped here by a red light. There is some problem with the train ahead of us, but we don't know exactly what it is yet. As soon as we find out more, we'll let you know. For now, just remain calm and stay in the car you are in. As soon as we know more, we'll pass it on to you."

SPIRIT MASTER #4: FOR USE WITH ACTIVITY #17

"Well, that didn't tell us much" a man across the aisle from the four youngsters muttered. "I wish they'd hurry up and fix whatever needs fixing."

Liz and Michael were getting a little worried. This was clearly not the sort of thing that anybody had expected. Jane and George tried to appear calm as though they knew exactly what to do, but neither one of them felt too good about this turn of events. "I bet Mom and Dad will be worried if we don't show up at James Polk Square when we are supposed to." "I hope they find out that the trains are stopped and don't think we got off at the wrong stop."

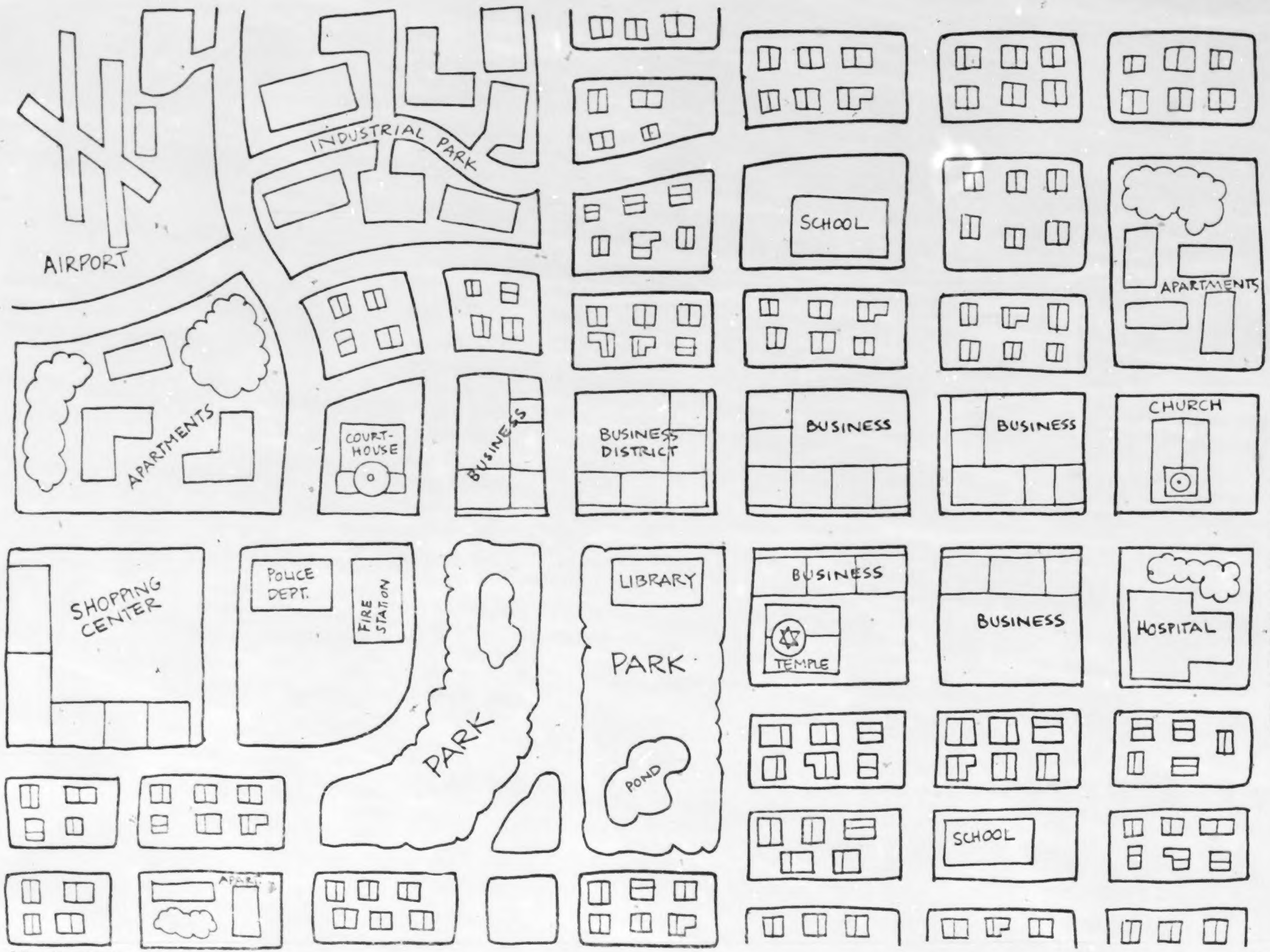
"Well, they know we can read; we wouldn't be dumb enough to get off where we aren't supposed to." Then everybody fell silent again.

The conductor's voice broke the silence. "We have some definite news now, folks. The problem is that a fire broke out in the train ahead of us. That caused a short-circuit and that's why the lights went out. They have told us to get everybody off the train. We'll have to walk *back*--use the rear door of the train and walk back to the Union Station stop. We aren't very far from it, about half a mile. I'll lead you. I will be coming through the train, to unlock the back door and help you down. The power is off, but it would be smart to stay away from the third rail anyhow. And walk slowly.

"All right everybody. Wait for me, and we'll start walking back."

Everybody, including the kids, were kind of stunned and remained silent for a moment or two. Then voices started to rise, and a general babble began. "How could this be?" "How far is it?" "Is it safe?" "What's the third rail?" Mike asked. "That's a rail that was beside the regular tracks. It's raised up on special supports." George told him. "The electricity for the train runs through the third rail, but the conductor said it has been turned off." Then the end door of the car opened and the conductor appeared.

Now finish the story.


AIRPORT
INDUSTRIAL PARK
APARTMENTS
COURT-HOUSE
BUSINESS
BUSINESS DISTRICT
SCHOOL
BUSINESS
BUSINESS
APARTMENTS
CHURCH
SHOPPING CENTER
POLICE DEPT.
FIRE STATION
PARK
LIBRARY
PARK
POND
BUSINESS
TEMPLE
BUSINESS
HOSPITAL
SCHOOL
APART.

3" of road = ¼ mile

SPIRIT MASTER #5: FOR USE WITH ACTIVITY #29

SPIRIT MASTER #6: FOR USE WITH ACTIVITY #32

Sample General Poll of Consumer Satisfaction with and Complaints Against Public Transportation Systems

1. Age: Under 12 ☐ 12-18 ☐ 19-29 ☐ 30-59 ☐ Over 59 ☐

2. Sex: M ☐ F ☐

3. Do you drive a car? Yes ☐ No ☐

4. How often do you use each of the following forms of public transportation?

	Never	*Once or Twice a Month*	*Once or Twice a Week*	*Several Times a Week*	*Nearly Every Day*
Bus					
Commuter train					
Subway					
Ferry					
Taxi					
Light rail (trolleys)					

5. When you use public transportation do you find it to be satisfactory in terms of

(a) Safety?	Yes ☐	No ☐	(e) Privacy?	Yes ☐	No ☐
(b) Comfort?	Yes ☐	No ☐	(f) Expense?	Yes ☐	No ☐
(c) Convenience?	Yes ☐	No ☐	(g) Accessibility?	Yes ☐	No ☐
(d) Speed?	Yes ☐	No ☐	(h) Availability?	Yes ☐	No ☐

6. Have you any general complaints about public transportation services in terms of

(a) Safety?	Yes ☐	No ☐	(e) Privacy?	Yes ☐	No ☐
(b) Comfort?	Yes ☐	No ☐	(f) Expense?	Yes ☐	No ☐
(c) Convenience?	Yes ☐	No ☐	(g) Accessibility?	Yes ☐	No ☐
(d) Speed?	Yes ☐	No ☐	(h) Availability?	Yes ☐	No ☐

7. Do you have any specific grievances against a public transportation service? If so, what are the most serious complaints?

8. Have you done anything about your grievance? If so, what have you done? What have the results of your actions been?

9. If you have not done anything, why not?

SPIRIT MASTER #7: FOR USE WITH ACTIVITY #32

Sample Specific Poll on Consumer Satisfaction With and Complaints About Bus Transportation

1. Age: Under 12 ☐ 12-18 ☐ 19-29 ☐ 30-59 ☐ over 59 ☐

2. Sex: M ☐ F ☐

3. Do you drive a car? Yes ☐ No ☐

4. How often do you use buses for everyday transportation needs?

   Never ☐ Rarely ☐ Once or twice a month ☐ Once or twice a week ☐

   Several times a week ☐ Nearly every day ☐

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5. When you use buses, do you find all of the following to be satisfactory as a rule?

(a) Safety?	Yes ☐	No ☐	(e) Crowding?	Yes ☐	No ☐
(b) Comfort?	Yes ☐	No ☐	(f) Expense?	Yes ☐	No ☐
(c) Convenience?	Yes ☐	No ☐	(g) Reliability?	Yes ☐	No ☐
(d) Speed?	Yes ☐	No ☐			

6. Have any of the following happened to you several times while traveling by bus?

(a) Bus doesn't show up at all.	Yes ☐	No ☐
(b) Bus is late arriving or reaching its destination.	Yes ☐	No ☐
(c) Bus is dirty inside--floor or seats.	Yes ☐	No ☐
(d) Operator is discourteous or uses insulting language.	Yes ☐	No ☐
(e) Operator drives illegally or dangerously, such as		
i. Speeds	Yes ☐	No ☐
ii. Tailgates	Yes ☐	No ☐
iii. Runs red lights or stop signs	Yes ☐	No ☐
iv. Fails to stop completely at railroad tracks	Yes ☐	No ☐
v. Fails to come to a complete stop to let passengers leave or enter bus	Yes ☐	No ☐
(f) You have been robbed or threatened.	Yes ☐	No ☐

7. Which, if any, of these occurrences do you feel are serous flaws in the bus system's service?

8. If you feel none of them is serious, skip to Question 11. If you feel one or more of them are serious, have you done anything about the problem? Yes ☐ No ☐

9. If you haven't, skip to Question 11. If you have what have you done and what have the results of your action(s) been?

10. If you haven't, why not?

11. In general, how would you rate bus service in your community?

    Poor ☐ Fair ☐ Good ☐ Excellent ☐

SPIRIT MASTER #8: FOR USE WITH ACTIVITY #33

Sample Poll on the Public's Views on Public Transportation Needs in the Community

Sex: M ☐ F ☐

Age: Under 12 ☐ 13-17 ☐ 18-29 ☐ 30-39 ☐ 40-59 ☐ 60-69 ☐ 70 & over ☐

Do you drive a car regularly? Yes ☐ No ☐

Section of the community in which you live: ____________________

Current use of public transportation:

Never ☐ Rarely ☐ Monthly ☐ Weekly ☐ Daily ☐

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1. What do you feel is the *single* most pressing need in the community in terms of additional public transportation services? (Check only *one.*)

Additional bus service	☐	Expansion of subway service	☐
Ferry service or hydrofoils*	☐	More taxis	☐
A subway system	☐	Additional commuter train service	☐
Elevated rapid transit system	☐	Carpooling	☐
Light rail (trolleys)	☐	Other ____________________	

2. What other pressing public transportation services do you feel are also needed?

3. What section(s) of the community do you feel are most in need of these additional services?

4. If the additions to the public transportation system which you have suggested were made, how much less often would you use your car?

Not less often at all	☐	Once or twice a week less often	☐
Once or twice a month less often	☐	Almost every day less often	☐

5. Would you use public transportation more if it were less expensive? Yes ☐ No ☐

6. Would you be willing to support the expansion of the public transportation system through any of the following methods?

Increased tax rate of $3 per person	Yes ☐ No ☐	Higher fees on parking meters	Yes ☐ No ☐
Increased tax rate of $15 per person	Yes ☐ No ☐	A tax on parking garages	Yes ☐ No ☐

7. Which, if any, of the following improvements in public transportation services would motivate you to use these services more than you do now? (Check *all* that apply.)

Safer vehicles in terms of crime	☐	More seats	☐
More stops along the bus routes	☐	Less crowding	☐
Faster vehicles	☐	Special bus lanes	☐
Air conditioning	☐	Other (specify) ____________________	
Cleaner vehicles and stations	☐		

8. Which two of these improvements would most encourage you to use public transportation more than you presently do?

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*Boats that move at high speeds across the top of the water, propelled by an airplane-like propellor in the rear.

SPIRIT MASTER #9: FOR USE WITH ACTIVITY #33

The poll below was distributed to passengers on buses in a U.S. Department of Transportation funded study.* However, students may find it useful to select questions from it which suit their particular research needs.

	Agree	*Disagree*	*No Opinion*
1. Most of the time the buses are on schedule.	____	____	____
2. It is usually difficult to find which bus to take.	____	____	____
3. The buses are uncomfortable.	____	____	____
4. A young child riding alone would usually be safe on the bus.	____	____	____
5. The bus comes by often enough on weekdays.	____	____	____
6. I need to transfer buses to reach my destination.	____	____	____
7. Bus schedules are difficult to find.	____	____	____
8. It is easy to call the bus company for information.	____	____	____
9. I do not feel safe on the buses.	____	____	____
10. Buses go where I need to go.	____	____	____
11. The buses are not kept clean.	____	____	____
12. The buses come by often enough on weekends.	____	____	____
13. Bus stops are not well marked.	____	____	____
14. The bus schedules are easy to read.	____	____	____
15. I am not protected from the weather while waiting for the bus.	____	____	____
16. I would ride the bus by myself at night.	____	____	____
17. The bus drivers are not courteous.	____	____	____

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*John C. Merritt, "The Effect of Improved Service on the Bus Transit Ridership in the Greater Layfayette Area."

SPIRIT MASTER #10: FOR USE WITH ACTIVITY #35

Case Study of a Proposed Public Transportation Improvement

Read the following case study and analyze it in terms of what kinds of opposition are likely to exist or develop against the plan, why such opposition may arise, and how transportation planners and citizens who favor the improvement might counter such opposition.

Smithsville, U.S.A. A typical city with a population of about 400,000 and a twice-daily traffic jam during the morning and evening rush hours. With the typical problems the poor, the elderly, and the handicapped face trying to get around the city. However, the Citizens for Better Transportation (CBT) has come up with a suggestion for improving the traffic problems of Smithsville. The CBT believes that if the city would provide special traffic lanes for buses on the major highways going in and out of the city during rush hours along with increased bus service during those times of the day, some of the rush hour problems could be solved. As part of its plan, the CBT also would like to see

- Fares on all buses eliminated for the elderly
- An additional 50 buses put into service
- Ten new bus routes developed to service the poor communities better
- A tax on automobile parking lots in the city by which to pay for the buses and make up for the loss in revenues from free fares for the elderly
- An increase of $5 per $1,000 in the excise tax on automobiles
- Only carpools allowed to drive on the main highways leading into and out of the city during rush hour

Obviously, this plan is going to stir up a lot of opposition in Smithsville. However, the CBT is a persistent group that doesn't give up easily. It realizes it's going to have to plan its campaign very carefully if it is to succeed. It will have to determine (1) what kinds of people and groups are likely to oppose its plans; (2) why these people or businesses or agencies will oppose it; (3) what it can do to overcome their opposition; and (4) what allies it can expect to find among citizens, the government, politicians, and business.

What would *you* say are the answers the CBT came up with to each of these four questions?

SPIRIT MASTER #11: FOR USE WITH ACTIVITY #39

Story Completion Activity

This is the beginning of a story. Write how it ends.

Everyone in your community was pretty happy about the transportation system in your community until four days ago when the President announced that due to a serious shortage in the amount of gasoline available in the United States, everybody would have to limit their use of cars to 50 miles a week. Gas would be rationed (about three gallons per car) to permit only that much travel.

People were thrown into a panic. How would they get to work? How would they get to the movies or the ball games or to school? No one seemed to have the answer at first. Then the town council got together with the mayor and they spent five days drawing up a plan to provide enough transportation to meet most--but not all--of the townspeople's needs. There wasn't enough money to provide all the public transportation or carpool arrangements everyone would want, so some people would be unhappy with the council's solution.

Finally, the mayor announced the plan. He went on radio and began his speech saying, "This is the Mayor. The town council and I have had to make some hard decisions due to the gasoline shortage and rationing rules and not everyone will be happy with our solutions. But here's what we've decided to do...."

Write how the story ends.